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HAMILTON WATERFRONT STUDY

Alternative Plan Scenarios

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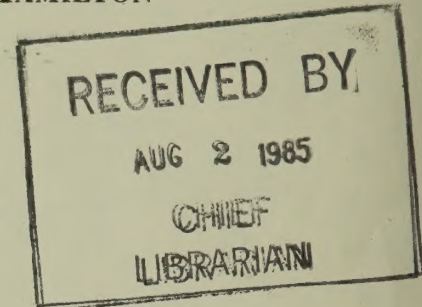
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Refer to: D. C. Freeman

Tel. No.: 526-4631

THE CORPORATION OF THE CITY OF HAMILTON

OFFICE OF
CITY ARCHITECT
HAMILTON, ONTARIO
L8N 3T4



1985 August 2nd

TO: DEPARTMENT HEADS

Attached please find for your perusal and comment, a copy of "Hamilton Waterfront Study - Alternative Plan Scenarios" prepared by Coombes/Kirkland/Berridge, July, 1985. A composite plan incorporating desirable elements of all three scenarios is presently being prepared by the Consultants and will be forwarded to you when it becomes available within the next few days.

The direction given to the Consultants by the Committee at its meeting of July 30, 1985 was to prepare a plan that was generally a combination of Alternatives One and Two, with the inclusion of a reference to development of the Harbour Commission property in the north-east section of the study area as a potential "future phase".

Further highlights of the new plan will include: the more natural, less formal shape and treatment of the former Lax property as displayed in Alternative One; continuous low speed vehicular/pedestrian route connecting Pier 4 and the "Island"; a rationalization of the present and proposed marine uses in Macassa Cove; and a continuous boardwalk/bicycle path from Pier 4 to the Island, along the water's edge to Dundurn Castle and the high level bridge.

Pier 4 will receive increased landscaping treatment, a children's playground, a reorganizing of the land form to accommodate a small water route/canal and lookouts. Leander Boat Club will be the aquatic centre for public sailing, rowing and school by the water, etc. with the potential for expansion in the future. The concept of the hotel will be retained on the Yacht Club property.

In the meantime should you require any additional information regarding the enclosed report, please contact either myself or Mrs. Jayne Tollefsen, extension 2762.

Your comments will be considered at a meeting of the Waterfront Sub-committee on August 13, 1985.

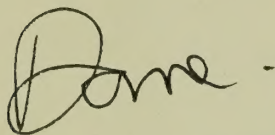
continued page - 2

TO: DEPARTMENT HEADS

- 2 -

1985 August 2nd

As mentioned, the Consultants will be preparing a plan incorporating the above for your consideration.

A handwritten signature in dark ink, appearing to read "D. Freeman", followed by a small dash.

DAVID C. FREEMAN,
City Architect & Co-ordinator,
Lloyd D. Jackson Square

encl.

HAMILTON WATERFRONT STUDY
Alternative Plan Scenarios

July 1985

COOMBES/KIRKLAND/BERRIDGE

in association with:

EDA Collaborative Inc.
Economic Planning Group of Canada
Barton-Aschmann Associates Ltd.
Booth Aquatic Research
Stevenson, Hluchan Associates Ltd.
Harbourfront Corporation
A.J. Vermuelen, Quantity Surveyors

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Introduction

1. INTRODUCTION

This report contains a description and analysis of the three alternative plan scenarios prepared for the Hamilton waterfront. These three scenarios, and their various related sub-options, offer distinctive futures for the study area. They provide the basis for choice of the recommended direction of the selected alternative to be elaborated in the final stage of the study.

The scenarios are essentially differentiated by the level of activity and intensity of use proposed. Many of the individual elements or programs are present in more than one scenario. Indeed, a a lower level intensity alternative could, through phasing development of additional elements, become to resemble a higher level scenario. However, for the purposes of assisting choice about the fundamental conceptual direction that might be taken on the lands, the differences between the alternatives have been intentionally exaggerated.

The site also consist of fairly district sub-areas. The three scenarios are indicated in a consistent fashion for all of the sub-areas. In reality, of course, their individual futures could proceed relatively independantly, or be phased at different rates.

Common Plan Basis

All of the scenarios are based a common assumptions about where within the overall study area the focus of activity and change is most appropriate. For a number of reasons the study has concluded that the major initiatives on the site should take place in the area running from the Lax Property and Pier 4. The other areas of the waterfront, while susceptible to some level of improvement, cannot become the primary focus. The reasons for this concentration are explored below:

o accessibility

The Lax property is the most accessible area of the waterfront from the south and the west. That accessibility can be achieved and improved without major impact on the environment of existing residential or commercial areas, something which is less true for the other sections of the waterfront. Accessibility from the east is more difficult, but that difficulty exists for all areas. Later in the report some proposals are made for improving accessibility from that direction.

o parking

All of the scenarios presented will require a major parking area, although the size of that area varies. There is only one location within the entire waterfront on which a major parking lot can be constructed without major cost or disruption, and that is on the area between Bay St. and the Lax landfill. Smaller parking areas can be developed at other points - in association with Leander and at other locations further to the north. Unless one of the existing uses is removed however none of these areas is large enough to act as back-up for any of the intended scenarios. The study has also concluded that any purely recreational parking be provided in surface lots since no structured or underground parking system is cheap enough to be feasible for such use.

o ownership

The Lax property extending to Pier 4 is in City ownership and thus immediately available. Most of the rest of the waterfront is under the jurisdiction of the Hamilton Harbour Commissioners. They have expressed on several occasions their clear intention to continue the primary use of their lands for shipping, navigation and other marine-related uses. While it is useful to speculate about the potential for and desirability of major land use changes in the area, any such changes will be made at the initiation of the Harbour Commissioners and not presumably until after the current uses were clearly shown to be no longer needed at this location.

While some important changes to land use, accessibility, programming and landscaping can be made in these areas of the site, the fact of City ownership reinforces the focus on the Lax properties.

The study has also not brought forward any alternative which involves simply maintaining the status quo with some minor landscape improvements. All the schemes are based on the principle that it is important to create an urban waterfront edge serving the entire Hamilton region and beyond, and that such an attractive destination cannot be achieved without some fairly major actions on the site. In particular the Lax landfill area is completely uninteresting in terms of its present shape, topography, edge conditions and function and thus appropriate for radical reconfiguration.

The Three Alternative Scenarios

The next sections describe in detail the recommended program for each of the three alternative scenarios, named for purposes of discussion as the "Waterfront Gardens", "Hamilton Island" and "Harbourplace Hamilton".

Each alternative is described under the following headings:

- o Land Reconfiguration
- o Major Landscape Features
- o Public Buildings
- o Waterfront Activities
- o Event Programming
- o Commercial Development
- o Residential Development
- o Road System and Parking

Where an element has been discussed in an earlier alternative, it is considered included in a later alternative unless specifically deleted or amended.

Following those descriptions are sections on the anticipated traffic, parking and environmental impacts on the site and their

projected capital and operating costs and potential revenues. These latter analyses are at this stage be preliminary, but nonetheless give a good picture of the order of magnitude impacts, costs and benefits for each alternative.

Alternative 1: The Waterfront
Gardens

2. THE WATERFRONT GARDENS

2.1 Summary of Concept

The lowest intensity scenario for the site is characterized as the "Waterfront Gardens". This scenario is illustrated in Plan 1. This concept involves the careful landscaping of the Lax property to produce a variety of different garden environments linked along a central boulevard running the length of the site. Each garden would have an international, historic or other theme that would be designed to involve local community and ethnic groups.

This scenario would also incorporate the Crystal Palace, a building principally used as a year-round flower show house, but that also includes restaurants, washrooms and administration space for the entire area. A large lawn would also be created, suitable both for picnics and for the occasional summer festival such as Fest-Italia or Canada Day.

The water's edge would be significantly redesigned from current conditions. The landfill area would be made into an island with a wide channel crossed by a bridge from the major parking area. The north-eastern edge of the landfill area would be cut back and reshaped to provide for good mooring for visiting boats and a possible permanent location for Tall Ships. The western end of the property is reconstructed to create a shallow lagoon and some distinctive new island environments. This lagoon would be programmed for both summer and winter events and designed to freeze well during winter. The lagoon would be serviced by a small restaurant/dance pavilion. Other restaurants would be located around the bridge entrance.

The waterfront would also act as a launch-off point for a number of tour boats. The Gardens would act as a gateway to the Royal Botanical Gardens, and possibly as the start for a tour of Stelco, as well as being the base for restaurant, dancing and charter boat cruises around the harbour. In addition an aerial gondola would take people directly to Dundurn Castle, adding yet another experience to time spent in the Gardens.

The general image of the Waterfront Gardens would be of a very relaxed, low-key, beautiful environment where one could go to stroll, look at the environment and have a picnic, with a limited number of "destination" attractions to add interest to the day. The international gardens would help to tie in the local community in interesting ways that have become extremely popular in other cities. The area would also function as Hamilton's public waterfront and become the place for civic, community and ethnic celebrations. The lagoon restaurant/dance pavilion would become a well known destination.

WATERFRONT GARDENS

1.

MACASSA BAY

4

C N RAIL



LAND RECONFIGURATION

1. Lax Property
2. Macassa Cove
3. Look-out
4. New Islands
5. Lagoon
6. Boulevard of Gardens
7. International Gardens
8. The Lawn
11. Fishing Pier
12. Waterfront Walk
13. Pier 4 Park
14. Guise St./Leander Drive

PUBLIC BUILDINGS

15. Crystal Palace
16. Support Greenhouses
17. Restaurant/Dance Pavilion
18. School by the Water

WATERFRONT ACTIVITIES

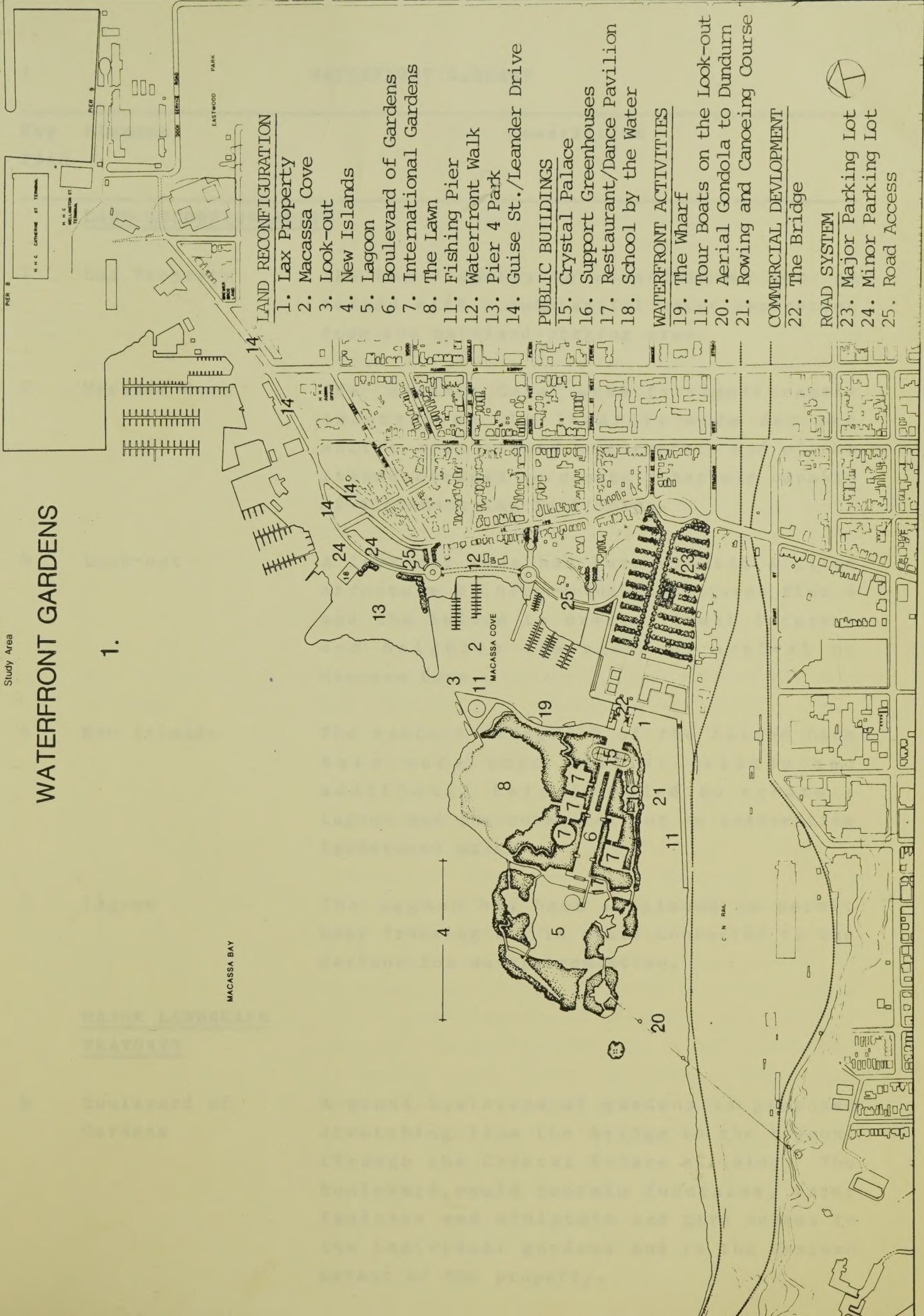
19. The Wharf
11. Tour Boats on the Look-out
20. Aerial Gondola to Dundurn
21. Rowing and Canoeing Course

COMMERCIAL DEVELOPMENT

22. The Bridge

ROAD SYSTEM

23. Major Parking Lot
24. Minor Parking Lot
25. Road Access



Key Plan	Element	Description
<u>LAND RECONFIGURATION</u>		
1	Lax Property	The Lax Property is reconfigured into an island with a substantial water separation from the mainland parking area.
2	Macassa Cove	The "Macassa Cove" area is significantly enlarged on the landfill side and the entire area around the eastern end of the island dredged to create a harbour capable of accommodating Tall Ships.
3	Look-out	A look-out area has been created a piled structure to narrow the gap between Pier 4 and the island to create visual interest and heighten the sense of arrival to Macassa Cove.
4	New Islands	The western "fingers" of the island have been made into smaller islands and additional islands added to create a lagoon and the potential for an interesting landscaped walk.
5	Lagoon	The lagoon has been shallowed to permit easy freezing but is still connected to the harbour for watercirculation.

**MAJOR LANDSCAPE
FEATURES**

6	Boulevard of Gardens	A grand boulevard of gardens is proposed stretching from the bridge to the lagoon, through the Crystal Palace building. The boulevard would contain fountains, water features and sculpture and give access to the individual gardens and to the western extent of the property.
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Key Element Plan	Description
7a.) International Gardens b.) c.) d.)	Each of the individual gardens would have a particular theme or character, such as the Japanese garden, the Italian garden or the Victorian garden. Volunteer gardeners from those communities would be responsible, under overall supervision and assistance, for their care and maintenance. Advantage would be taken from city-twinning programmes and from consulates/trade associations/friendship societies, etc. to seek contributions and elements for each of the gardens. The gardens would be designed as more than just flower show areas, but landscaped to create integral miniature environments.
4 The Enchanted Islands	The smaller islands created at the western end of the site would be linked by small bridges and landscaped to create a delightful circular walk around the lagoon, highlighting the feeling of being out at the furthest extent of the harbour. Each of the bridges would be different in character, one might be a swinging bridge, another a floating bridge, another perhaps even an underwater connection. The paths and landscaping on the islands would be designed to create vistas of Dundurn Castle and other features such as grottos, ruined temples, mazes and little visual jokes and trompes l'oeil. The whole environment would have a sense of magic and an intimate sense of the water.

Key Element Plan	Description
5 The Lagoon	The lagoon would act in summer as a safer water area on which pedalos and other child's craft could be permitted. Water circulation with the harbour would be maintained to the greatest extent possible. It would also have a floating stage on which an evening dance or jazz band would play for the restaurant/dance pavilion. In the winter the lagoon would become a large ice area that would be artificially assisted to maintain a good surface. The area would be sprayed to build up ice thickness and freezing lines might be installed. Water circulation to the lake would be prevented by temporary barriers. This surface would then become available as a large skating and bonspiel area and perhaps suitable for a tamer form of ice boat racing than that practised in the harbour proper. At least once a year a full winter carnival would be held on the ice.
8 The Lawn	The large lawn area would be generally available as a walking area, a picnic area, an area for flying kites and throwing frisbees. It would also function as the large festival space capable of holding all sizes of crowds on celebratory occasions. It would become the space for such events as Fest-Italia, Oktoberfest, Canada Day and similar kinds of large assemblies that involve outdoor music, food, dancing, shows and similar activities. The lawn would be inclined to the north-west with any temporary stages or bandshells located here to keep noise away from the North End.

Key Element Plan	Description
	The Lawn would also act as a grassy viewing area for any water events such as water skiing and boat racing that would take place immediately to the north.
3 The Lookout	A lookout and gazebo is located at the entrance to Macassa Cove, at the end of the Wharf. This area would be on piles so as not to restrict water circulation in the Cove.
9a.) Groves of Trees b.) c.)	Groves of trees would be located at appropriate points over the site to emphasize the divisions of the island and to frame views of important points. The island needs a lot of large trees to increase its perceived area and visual interest.
10 Pathways	An extensive walkway system would be developed around and across the island.
11 Fishing Area	A fishing area is located on the northern face of the lookout area.
12 Waterfront Walk	A continuous public walk is created between Pier 4 and Lax attempting to create the minimum of disruption to existing uses. The walk would go on the existing lane behind the Macassa Bay Yacht Club and go through the area used by the MacDonald Marina, which should be reorganized to accommodate their security requirements. Direct public access to the water would be provided at a location between the yacht club and the marina on a new lookout pier.

Key Plan	Elements	Description
13	Pier 4 Park	Pier 4 Park is improved by developing a lookout opposite its island counterpart and by the planting of double rows of trees on its two flanks, leaving open the main view to the island and the harbour. A walkway around the edge of the property is developed.
14	Guise St./ Leander Dr.	Guise St./Leander Drive would be improved and lined with trees to create a more appropriate waterfront road. A substantial grassed verge should be created on the north side and fences either removed, moved back and/or more sympathetically designed.

PUBLIC BUILDINGS

15	Crystal Palace	The Crystal Palace would be located on the island side of the bridge, easily accessible year-round. The building would principally serve as a show house for flowers, although it could also provide washroom and administration space and act as a base/support building for events on the island.
		The building would be highly glazed, light, reflective, airy and capable of being seen from all important views across water, so that it becomes a glittering landmark for the harbour.
16	Support Greenhouses	The support greenhouses required for the Crystal Palace are located adjacent to the building.

Key Plan	Elements	Description
17	Restaurant/ Dance Pavilion	A restaurant/dance pavilion building is located at the eastern edge of the lagoon at the end of the Boulevard of Gardens. This building would be a pleasant, low-key dining and dancing area in summer and a support to the ice activities in winter.
18	School-by-the-Water	The functions of the Leander Rowing Club building would be expanded so that it acted as a day-time city-wide "school-by-the-water" resource. It would offer an educational program available for schools on all aspects of marine and lake environments, water safety and boating. It would also continue to support the current rowing function, as well as additional public access to the water and boating. The boat ramp would be improved, boat rentals would be available, as well as further possible sailing school activity.

WATERFRONT ACTIVITIES

19	The Wharf	The reconfigured water's edge between the bridge and the lookout would become the Wharf, accommodating any Tall Ships and other interesting vessels that are permanently or temporarily in Hamilton. The good docking edge would also provide mooring for visiting boats that would be attracted to Hamilton. The enlarged water area of Macassa Cove would allow easier large boat handling and for some expansion of boat docking.
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**Key Elements
Plan****Description**

- | | | |
|----|---------------------------|---|
| 11 | Tour Boats | <p>The tour boats would leave from the Lookout pier, outside of Macassa Cove to avoid congestion. Tour boats would give access directly to the Royal Botanical Gardens, arriving at a dock at the Valley Inn. From there visitors can walk easily to the Spring Garden and the Rock Garden and some form of shuttle vehicle could give access to the rest of the R.B.G.</p> <p>Tour boats could also access the steel works directly for tours and Stelco is considering developing a receiving dock on its property.</p> <p>A number of other destinations might be possible from here, including Confederation Park and the Burlington Beach area.</p> <p>Dining/dancing and charter boats giving tours around the harbour would also leave from this area.</p> |
| 20 | Aerial Gondola to Dundurn | <p>Dundurn Castle would be directly accessible from the site by an aerial gondola, leaving from the furthestmost island. This ride would be fun of itself and provide marvellous views of the harbour as well as accessing the Dundurn Museum and parking.</p> |
| 21 | Rowing & Canoe Course | <p>The safe water of the cut between the island and the C.N. yards now acts as an excellent rowing course. Its use could be increased by creating a canoe rental area, perhaps incorporating a floating canoe obstacle course of portages, tight bends and narrow gaps.</p> |

Key	Elements	Description
Plan		
<u>EVENT</u>		
<u>PROGRAMMING</u>		
8	The Lawn	The Lawn would become the principal location for the kind of festival and celebratory event programming described earlier.
5	The Lagoon	The lagoon might also be a place for various kinds of water events and in winter would be the focus of the winter carnival.
 <u>COMMERCIAL</u>		
<u>DEVELOPMENT</u>		
22	The Bridge	Restaurants and possibly small concession stands would be located around and perhaps even on the bridge, taking advantage of the great boat activity and the high level of pedestrian traffic to the island.
17	Restaurant/ Dance Pavilion	The pavilion beside the lagoon would contain a commercial restaurant in addition to its function as a base building for the lagoon/ice surface.
19	The Wharf	The Wharf might also be an appropriate location for restaurant and some other concession activity, depending on the level of public use.
 <u>RESIDENTIAL</u>		
<u>DEVELOPMENT</u>		
		No residential development is anticipated in this scenario.

**Key Elements
Plan****Description**

ROAD SYSTEM**& PARKING**

- | | | |
|----|----------------------|--|
| 23 | Major Parking
Lot | A major parking lot has been created west of Bay St. to service the island. A total of 500 cars can be easily accommodated in a heavily landscaped lot. |
| 24 | Minor Parking
Lot | A minor parking lot capable of accommodating 80 cars is located adjacent to the Leander Building. |
| 25 | Road Access | <p>No major changes to the existing road system are required although the upgrading of Strachan Avenue to a boulevard street and its connection through to Victoria/Wellington is desireable to provide better access to the east.</p> <p>The access roads to Macassa Bay Yacht Club and MacDonald's Marina do not connect but end in turning circles. These roads should, however, be improved and tree-lined to improve the walk experience.</p> |

Alternative 2: Hamilton Island

3. HAMILTON ISLAND

Summary of Concept

The "Macassa Island" scenario builds on the base of the Waterfront Garden concept, but includes a broader range of activities for the public which encompasses learning as well as doing.

The goal of the Hamilton Island scenario is therefore to strengthen the power of the image of the waterfront to the point that it becomes an accepted destination for tourists and visitors and a repeatable experience for the majority of Hamiltonians. This alternative, however, tries to achieve that goal in ways which are not primarily commercial in nature, but have an institutional quality while still making an enjoyable experience.

Finding elements which have that attractive power but that remain true to the character of Hamilton and are appropriate next to the water is not easy. The big recreational draws of water slides and wave pools are located in Confederation Park, and Toronto with its powerful regional attractions is too close for Hamilton to compete easily.

However, there did seem to be three such attractions that would fit well on the site. First is an IMAX or OMNIMAX theatre. Such a theatre could provide a large number of marvellous films now available as well as a show initially titled in this report "The Hamilton Show". Similar shows to this are found now in many cities, Chicago, Boston and New York for example and if well done they become an essential tourist and visitor activity.

The "Hamilton Show" would be fun and upbeat about the Hamilton region generally, and could incorporate extraordinary nature photography from Cootes Paradise and the R.B.G. It should have a sequence giving the sound and visual experience of being in a steel rolling mill and a blast furnace. It should have underwater photography of the Hamilton and the Scourge and continually document the stages of their conservation. The Imax process is perfect for these kinds of very strong and fascinating images.

In this way the themes of the "Hamilton Show" would tie directly into the ideas discussed in the first alternative of using the site as a launching point for many other activities in and around the harbour.

The second attraction that should be incorporated is the berthing of a working replica of the Hamilton and/or Scourge on Hamilton Island. Such a replica could probably not be located in Confederation Park since docking and sailing conditions are not appropriate. The opportunity to see that section of the "Hamilton Show" and walk outside and see, even sail, on one of the replicas would not only benefit the Hamilton Island, but the actual Hamilton and Scourge museum itself.

The third element required to increase the level of institutional intensity is the promotion of a substantial group of programmed artistic, cultural and recreational events that together have enough critical mass to become a destination. The model at the larger scale for such a set of programming is Toronto's Harbourfront, but the package for Hamilton should reflect the particular talents and interests of the city.

The increased level of activity implied by this option suggests a more substantial reconfiguration of the stretch between Hamilton Island and Pier 4. Since the attractiveness of Hamilton Harbour for visitors will have increased, an attempt to significantly increase the number of yacht moorings and their use by visitors should be made. A regularization of the water's edge here would permit a continuous boardwalk along between the two major public areas of the waterfront. Yacht club, marina, restaurant and other commercial uses might arrange themselves along this new waterfront. Running behind this tier of uses a park service road would connect Leander Drive to the island parking area and provide access to the uses along the waterfront.

"Hamilton Island" would have with these elements a more substantial draw than the first alternative and a very distinctive, active recreational character. (Note in the following detailed description that any element in the first alternative not amended or deleted would be a part of this alternative scenario.)

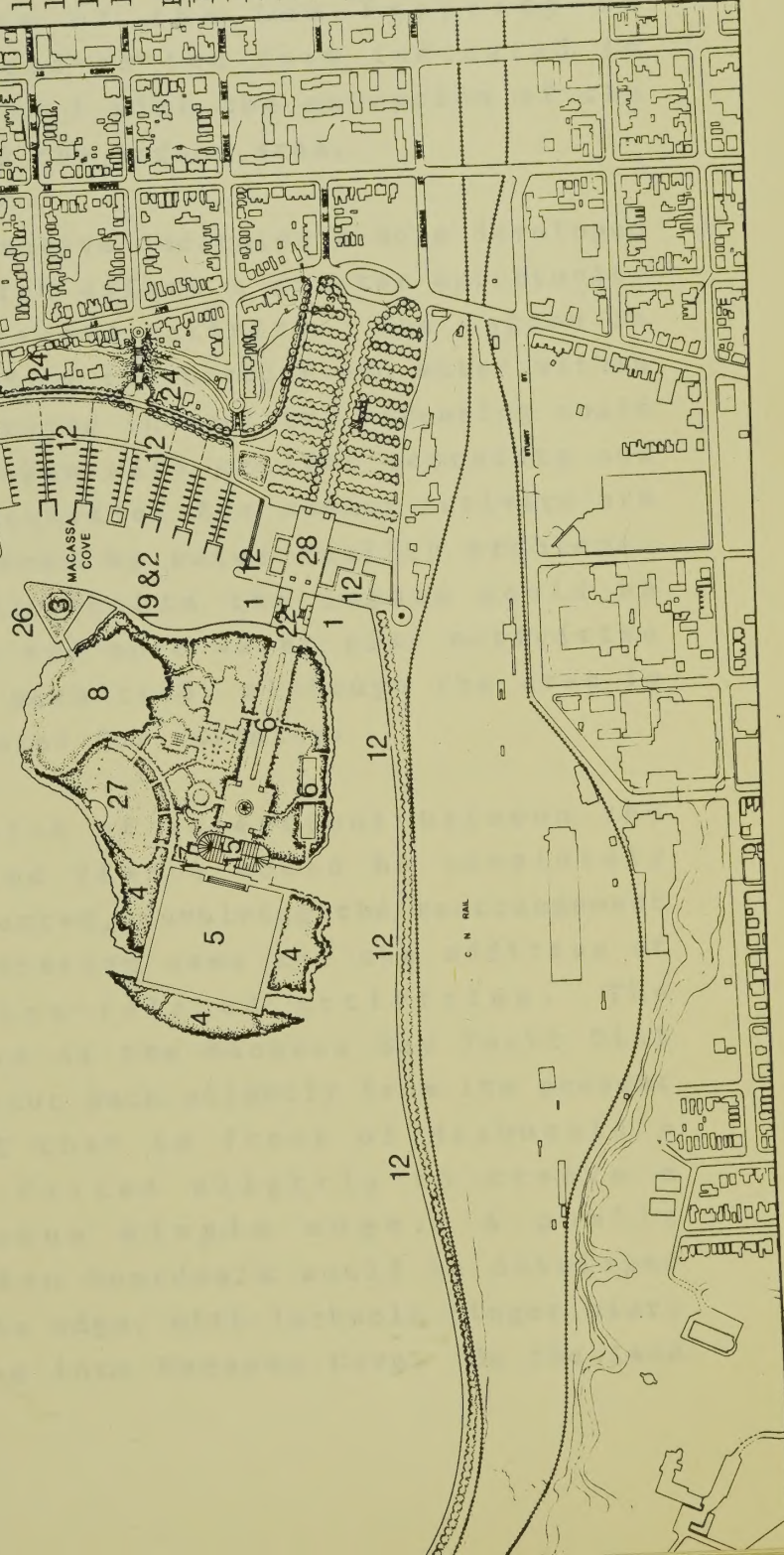
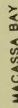
HAMILTON ISLAND

Hamilton Show

2. A Public Waterfront Promenade that is more extensive and continuous along the water's edge

26. Hamilton Scourge in a Grassy Bowl

98. Waterfront Square



1. Tax Property
2. Macassa Cove
3. Look-out
4. New Islands
5. Lagoon
6. Boulevard of Gardens
7. International Gardens
8. The Lawn
11. Fishing Pier
12. Waterfront Walk
13. Pier 4 Park
14. Cruise St / Leander Drive

15. Crystal Palace
16. Support Greenhouses
17. Restaurant/Dance Pavilion
18. School by the Water

19. The Wharf
11. Tour Boats on the Look-out
21. Rowing and Canoeing Course

22. The Bridge

ROAD SIGNS
23. Major Parking Lot
24. Minor Parking Lot
25. Road Access



HAMILTON ISLAND

Key Element Plan	Description
<u>LAND</u>	
<u>RECONFIGURATION</u>	
1 Lax Property	The shape of the Lax Property is reconfigured to the form indicated in Alternative 1 with the exception of the islands and the lagoon area.
5 Lagoon	This alternative indicates a more developed lagoon which offers a greater opportunity for programmed activity. The lagoon is separated from the Harbour and water within it is improved in quality. Freezing could be undertaken with greater certainty and the opportunities for summer activity are not hampered by water quality problems. Fountains within the lagoon would be possible and more water play activities could be permitted, although the area is not indicated for swimming.
12 Waterfront Promenade	The stretch of waterfront between the Island and Pier 4 would be completely reconstructed, involving the rearrangement of the existing uses and the addition of new marine-related activities. The shoreline at the Macassa Bay Yacht Club would be cut back slightly from its present line and that in front of MacDonald's marina filled slightly to create a continuous simple edge. A public pedestrian boardwalk would be developed along this edge, with lockable finger piers extending into Macassa Cove. On the land

**Key Elements
Plan**

Description

of the boardwalk would be located the yacht club and marina buildings. The restructuring of this ledge would create room for additional marine-related buildings and any new restaurant or retail buildings. These buildings and activities would be accessed by a rear park service road.

**MAJOR LANDSCAPE
FEATURES**

- | | | |
|---|------------------|--|
| 4 | Islands | The islands are reconfigured to permit the more finished lagoon, although many of the same landscape, lookout and bridge features mentioned in the first alternative would also be present. A continuous walk would be possible around the lagoon, with good views both of the harbour and of the activity in the lagoon itself. |
| 5 | The Lagoon | The lagoon would become a "public square" made of water offering a much greater diversity of landscape treatment and activity programming including winter skating rink, bonspiels, etc. |
| 3 | The Imax/Omnimax | A major feature of the Macassa Island scenario is the development of an Imax/Omnimax theatre for viewing the "Hamilton Show". Such a show would include a celebration of Hamilton's qualities and character and would specifically focus on three major themes; the extraordinary natural environment of Cootes Paradise and |

Key Elements Plan	Description
12 Waterfront Promenade	the R.B.G., the excitement of experiencing a steel plant and steel making, and the history and conservation of the Hamilton/Scourge. The theatre can also show many of the other available films for this kind of theatre. The location, at the entrance to Macassa Cove, is important since it is highly visible and demands a dramatic architectural treatment. The waterfront promenade proposed in this option greatly increases not only the reality but the sense of public accessibility to the water. Rather than tucking behind marine activities or walking through them, a regular, understandable and familiar tiering of activities and uses is proposed. This critical link in the entire waterfront pedestrian system is thus made into an attraction of itself. The reconfiguration of the marine uses along the promenade also allows for an increase in the number of docking spaces provided, as well as permitting more direct public more direct public access to the water.
27 Bandshell/Stage	This alternative proposes a bandshell/stage capable of seating between 500-1000 people for use in association with festivals and events on the remainder of the property. The seating would be provided principally by landforming with a minimum of hard surface seating and permanent facilities. Such a facility could also be available for outdoor summer theatre, an increasingly popular activity in other cities.

Key Elements Plan	Description
28 Waterfront Square	The waterfront square on the main land side of the bridge has great potential as an area for antique markets, flea markets, farmer's markets and similar events that need ready access to parking.

PUBLIC BUILDINGS

15 Crystal Pavilion	The concept of the Crystal Palace as primarily a flower show facility is greatly expanded in this alternative and the name is consequently changed. The Crystal Pavilion is home not only to the flower and botanic exhibits, but to an intensive program of cultural, artistic and recreational events. A different location, at the end of the Boulevard and Gardens is proposed, and it supplants and incorporates the earlier restaurant/dance pavilion. The building must have the same glittering and dramatic qualities as described for the Crystal Palace. Indeed, the location adjacent to the lagoon and further into the harbour make the building even more prominent.
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The increased level of activity in the building make its location at some distance from parking less problematic.

18 School-by-the-Water	The school-by-the-Water occupying the Leander Building has been expanded towards the water, to increase programming space and to provide an opportunity for some restaurant space beside the water. A new public pier and improved public boat launch has also been created at this location.
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**Key Elements
Plan**

Description

A second public boat launch has also been indicated to the south of the bridge to the Island adjacent to parking.

**WATERFRONT
ACTIVITIES**
**26 The Hamilton/
Scourge Replica**

Working replica(s) of the Hamilton/Scourge would be located at the Wharf. They would be constructed, perhaps even on site, by a combination of skilled shipwrights, volunteer labour and a youth skills training programme. Such a combination successfully produced another such replica, the "Bee" in Penetanguishene.

The replica might be sailed by sea cadets or under the kind of sail training program operated for the "Brigantine" in Toronto. It would be available for public viewing and for charter.

Such a boat would bring a number of benefits to Hamilton Island. It would add great visual interest to Macassa Cove, especially if in association with other Tall Ships. It has enough historic interest and integrity to be a destination of itself. It would add to the experience of the Imax film sections on the Hamilton/Scourge. Finally, it would add to the interest in going to the actual museums, since water and lake conditions are not appropriate off Confederation Park for the sailing of a replica.

**Key Elements
Plan**

Description

**EVENT
PROGRAMMING**

- | | | |
|----|--------------------------|---|
| 15 | Crystal Pavilion | <p>The Crystal Pavilion would be the home of a wide range of events and activities. Its exact programming mix would evolve over time but the following kinds of elements could be anticipated in addition to those previously mentioned:</p> |
| | Professional Performance | <ul style="list-style-type: none"> - Dance - Music - Children's Theatre - Crafts - actively being created and in display - Art Gallery - Authors' Readings |
| | Participatory Events | <ul style="list-style-type: none"> - Ballroom/Folk indoors/under stars - Educational activity for school children - Summer Camps - Senior Citizens' Club |
| | Special Events | <ul style="list-style-type: none"> - Bonspiel/Wintefest - Children's Festival - Canada Day - Labour Day Weekend - Harvest Festival - Craft Fair - New Year's & Christmas Holiday Event |

A more extensive description of this programming is given in Section 5.

Key Plan	Elements	Description
<u>COMMERCIAL DEVELOPMENT</u>		Commercial development in this alternative would take place in the same places and with the same mix of restaurant and limited retail uses suggested for Alternative 1. The increase in activity generated by the new facilities would allow for a substantial increase in the amount of such space however.
12	Waterfront Promenade	The development of the continuous waterfront promenade between the Island and Pier 4 would provide the opportunity for some commercial activity although this is likely to be secondary to the more highly trafficked areas closer to the Island.
<u>RESIDENTIAL DEVELOPMENT</u>		No residential development is anticipated in this scenario.
<u>ROAD SYSTEM & PARKING</u>		
23	Major Parking Lot	The increased level of activity on the Island has increased the required size of this parking lot to 700 spaces.
24	Minor Parking	New lots created between Pier 4 and the island could accommodate a total of 200 spaces. Some of these spaces would, however, represent replacement of existing spaces serving the marine uses.
25	Road Access	The Strachan Avenue connection via Victoria/Wellington to Burlington is required to provide clear and simple accessibility from this important direction.

Key Elements
Plan**Description**

The park service road connection is made between Leander Drive and the Island parking lot to provide simple and understandable vehicular circulation and to link the Leander parking lots directly as a resource for the Island. Such a connection provides easy access to the rear of uses fronting on the Waterfront Promenade and eliminates U-turning movements. It also clearly establishes the public character of this part of the site.

Alternative 3: Harbourplace
Hamilton

4. HARBOURPLACE HAMILTON

Summary of Concept

The "Harbourplace Hamilton" scenario attempts to achieve the same level of activity and intensity achieved by the "Macassa Island" concept, but with a greater reliance on more commercial activities that can bring a higher level of private investment to the site.

Such a concept might also be appropriate if certain of the elements proposed for Macassa Island prove either too expensive, such as the Imax/Omnimax theatre, or inappropriately located such as the Hamilton/Scourge replica, or too problematic to operate such as the Crystal Pavilion.

In the event that one or more of the major animating elements and destination attractions of the earlier scheme cannot be secured, then serious consideration must be given to commercial demand generators if the level of city and regional use desired is to be maintained.

Several of those quasi-commercial attractions are already located in Confederation Park. Two elements not yet found in the Hamilton region are a large children's adventure playground and an amphitheatre capable of accommodating large audiences and with a sound and seating quality suitable for top-line entertainers, the Hamilton Symphony and visiting orchestras and shows.

These attractions can physically be accommodated on the Island with the full Macassa Island program continuing. Such a complete range of events and activities would generate very substantial attendance figures capable in turn of supporting quite a substantial increase in commercial activity over that previously programmed.

This programme's attractive power would require an increase in the parking provision to the maximum physically possible on the site, an amount which might even then be inadequate. A radical step is

therefore recommended to alleviate the parking problem and dramatically improve the accessibility and connection to the downtown. A trolley car service should be put on James Street, recreating the original Hamilton Street Railway, and looping down along the waterfront promenade, to the island and back up to James St.

The scenario description assumes the maintenance of the full Macassa Island programme and the addition of the children's adventure playground, the amphitheatre and the street trolley car.

In addition, this level of activity on the Island would begin to promote the attractiveness of development along areas of the waterfront further to the north. This scenario therefore explores the potential for various kinds of hotel, residential and mixed-use development on lands now owned by the Harbour Commissioners and in marine-related use. While it is recognized that it is the stated intention of the Commissioners to continue such use, it is interesting nonetheless to explore the long-term implications of development on some of those sites when the current use is no longer deemed necessary. On some sites, particularly Piers 5, 6, and 7, some increased level of development would seem in fact to be completely compatible with continuing marine-related uses now in existence.

HARBOURPLACE HAMILTON

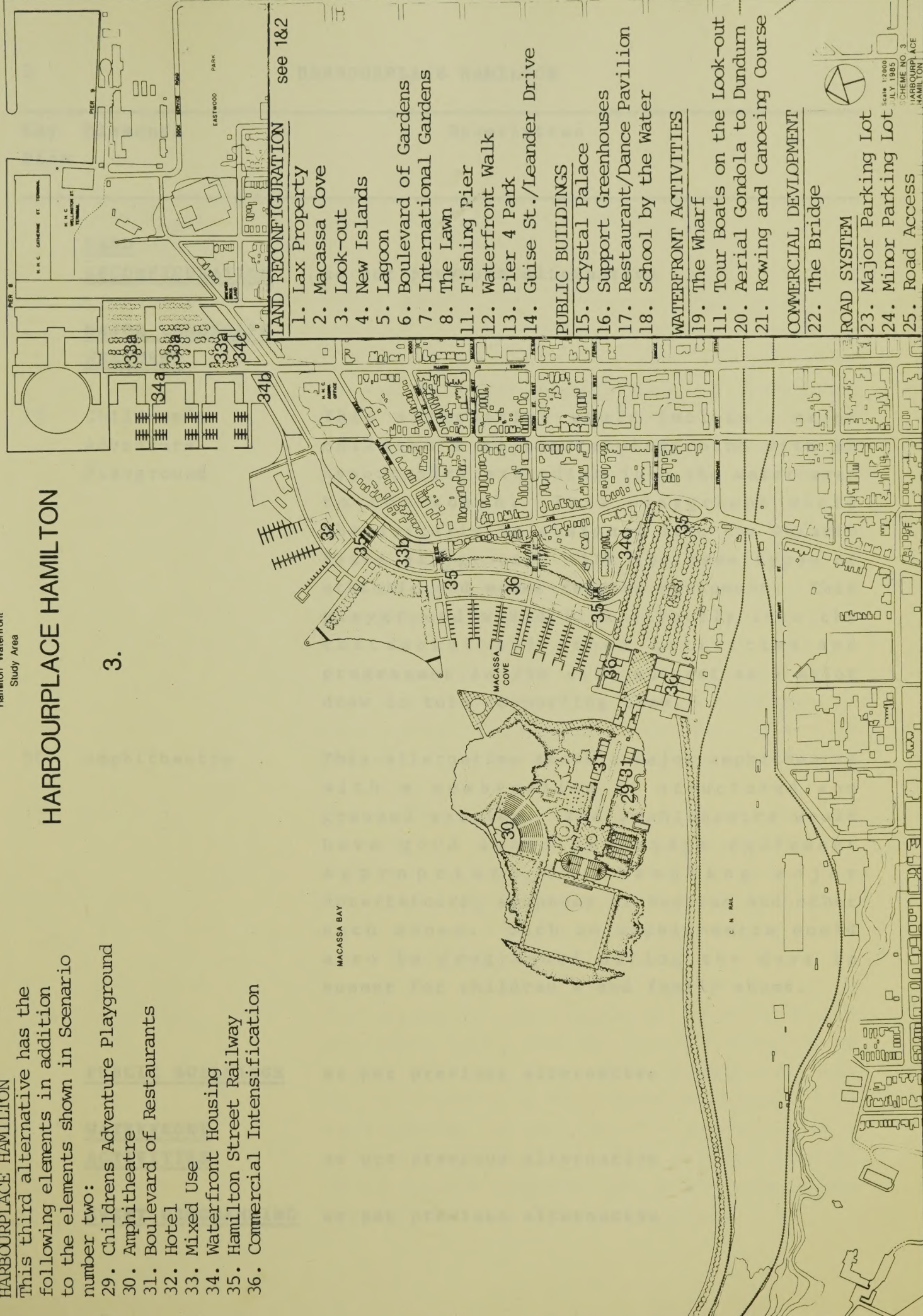
This third alternative has the following elements in addition to the elements shown in Scenario number two:

29. Childrens Adventure Playground
30. Amphitheatre
31. Boulevard of Restaurants
32. Hotel
33. Mixed Use
34. Waterfront Housing
35. Hamilton Street Railway
36. Commercial Intensification

Hamilton Waterfront
Study Area

HARBOURPLACE HAMILTON

3.



**Key Elements
Plan**

Description**LAND****RECONFIGURATION**

as per previous alternative

MAJOR LANDSCAPE**FEATURES**

- | | | |
|----|---------------------------------------|--|
| 29 | Children's
Adventure
Playground | This alternative would include a major children's adventure playground with an opportunity extending into the water area to the south. This playground would thematically be designed like the Ontario Place playground, with the same types of athletic and water-related equipment. This playground would link directly into the restaurant and other activities and programmes in the site and act as a major draw in turn supporting them. |
| 30 | Amphitheatre | This alternative shows a major amphitheatre with a combination of structured and grassed seating. The amphitheatre would have good sound and stage equipment appropriate for handling major entertainers, symphony orchestras and other such shows. Such an amphitheatre would also be programmed during the days in summer for children's and family shows. |

PUBLIC BUILDINGS

as per previous alternative

WATERFRONT**ACTIVITIES**

as per previous alternative

EVENT PROGRAMMING

as per previous alternative

Key Plan	Element	Description
	<u>COMMERCIAL DEVELOPMENT</u>	as per previous alternative
31	Boulevard of Restaurants	The eastern part of the central boulevard has potential, because of the increased level of activity on the site, to be developed more intensively for commercial uses, principally restaurants with perhaps some gift shops. These restaurants could perhaps reflect the international themes discussed for the Gardens. The increased level of activity also greatly increases the commercial opportunities elsewhere. The Wharf becomes much more active and the waterfront promenade begins to take on a very strong commercial potential as it links through to the more developed residential and commercial zones to the north.
32	Hotel	The areas to the south-west of the parking lot of the R.H.Y.C. makes an excellent future development location, particularly for a use that would be highly compatible with the continuing operation of the yacht club, such as a hotel.
33a.)	Mixed-Use	The eventual development of Pier 8, if shipping uses are no longer considered appropriate, provides a magnificent opportunity for a major mixed-use development as well as for provision of a landmark open space. Such a project could be of quite significant scale given the size of the available land areas.

Key Element Plan	Description
33b.)	East of Pier 4 the land area affords an adequate dimension for small commercial ventures with the possibility of studios or lofts above.
36 Commercial Intensification	This scenario upgrades the development intensity for all the previous sites located in the second scenario. They include intensification of commercial facilities at the Neck of the Island. 36 on both sides of the Public Square, as well as general intensification of uses between the Island and Pier 4.

**RESIDENTIAL
DEVELOPMENT**

34a.) Waterfront Housing	Large areas of the site north of Pier 4 could fairly simply be developed for housing with minimum disruption to the marina function. Such development would provide wonderful places to live, accommodate recreational parking and enable public access to the water. Other locations for housing exist at the entry to the Island (34d.).
b.)	
c.)	
d.)	

**ROAD SYSTEM
& PARKING**

23 Major Parking Lot	The capacity of this lot could be expanded to 900 at the loss of some of the landscaping.
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Key Plan	Element	Description
35	Hamilton Street Railway	In order to greatly increase the actual and perceived accessibility of the waterfront from the downtown and to reduce the on-site parking requirement, the study recommends that the level of transit service to the site be greatly increased for this alternative. One idea to be fully explored is that of recreating the Hamilton Street Railway. Historic trolley cars and similar vehicles from Hamilton and other cities could be reconditioned to provide a new service to the waterfront that would be an experience of itself. The route might consist of going down Bay to the site, along the waterfront promenade to the foot of James St. and back up James St. to the downtown. Initially a rubber-tired vehicle might be preferable and substantially cheaper to a steel rail vehicle.

Activities on the Waterfront

5. ACTIVITIES FOR THE WATERFRONT

The development of any of the alternatives for the waterfront provides a major opportunity for Hamilton to establish in the new park a series of events, activities and programs. This potential is described more fully in this section along with some of the operational requirements that such activities require.

Major Outdoor Festivals

The island and the lawn and the associated bandshell/stage or amphitheatre facilities provide an excellent location for major events now located elsewhere in the city that are not fully accommodated at present. The following outdoor festivals might be accommodated:

- | | |
|----------------------|--|
| Canada Day: | A three day multicultural festival, developed from the present "It's Your Festival" program with fireworks displays, demonstrations of various ethnic and regional groups, etc. |
| Fest-Italia: | A festival for Hamilton's largest ethnic group that once took place in Gage Park and now has declined in activity. |
| Festival of Friends: | A festival now occurring in Gage Park in mid-August that could be relocated to the waterfront. |
| Labour Day: | Once at Gage Park, the Labour Day parade now ends in Dundurn Castle. |
| Winter Carnival: | No winter carnival exists but the idea has raised great interest. A combination of a bonspiel, ice-boating, ice-boat racing, ice-sculpture, speed skating races and similar participatory and viewing events could be a great success. |

Each of these activities can draw up to 300,000 people. The wear and tear on the lawn in particular, suggests that such an event every two weeks in the summer is the maximum desirable.

Minor Outdoor Events

A very long list of potentially less large scale outdoor events exist for the waterfront park, many of which are compatible with the larger festivals. These events could be grouped as follows:

Community Events:

- o Folk Dancing
- o Bandstand Concerts
- o Highland Games
- o Mutt Show
- o Garden Produce Shows
- o Art and Craft Shows
- o Small Craft Regattas

Regional Attractions:

- o Equestrian Show
- o Sheep Dog Shows
- o Trampoline Festival
- o Balloon Race
- o Antique Auto Show
- o Antique and Classic Boat Show
- o Visiting Ships, Naval & Tall Ships
- o Boat Races, Water Ski Shows
- o Hamilton Opera

Semi-Commercial Events:

- o Boat Shows
- o Garden Equipment Shows
- o Farmers Market
- o Antique Market

Indoor Events

Alternatives 2 & 3 involve the development of an indoor area, associated with the Crystal Palace, that can be utilized for a number of different events on a year-round basis. In the summer and at the Winter Carnival time, these events can be coordinated with the outdoor festivals and events.

The basic philosophy of this indoor activity space is that it should be highly flexible and able to respond to the needs of groups and programs of very different sizes and needs. There should be no rigid separation between activities since each space and event collectively contributes to the success of the whole area. Even the botanic function of the Crystal Palace, which might be separately managed and organized, could have a wonderfully positive relationship with the other ongoing activities.

Three basic areas are proposed within this structure in addition to the botanic, administrative and washroom facilities.

Pavilion: A space of about 6,500 sq. ft. capable of holding approximately 600 people and subdividable into at least three spaces with soundproof retractable walls. This space would be useful for small performances, dramas, lectures, concerts, dances, and banquets.

Gallery Space: A gallery space, which might be the corridor system leading to the Pavilion and the cafe area, of about 1,500-2,500 sq. ft. to support an art and photography exhibit space, craft exhibit space, viewable studio space for public studios, weaving, silk screening, quilting, etc. and general exhibitions. A children's craft area should also be incorporated.

Cafe Area: A cafe area of 1,500 sq. ft. providing both indoor and outdoor service, and capable of providing banquet service to the Pavilion, with good views of the water and outdoor activities.

Funding Sources: Rental Fees and Concessions

This program of events and activities can be funded on an operating basis if carefully planned without resorting to any general admission fee except for very occasional events. The following general revenue sources should be fully exploited:

Parking Revenue:	Parking revenue is the biggest, single source of revenue in Toronto's Harbourfront. Parking rates should be structured to take advantage of weekend discretionary spending and be flat rate to reduce labour costs.
Food Service Concessions:	The average visitor (including children) to Harbourfront spends about \$3.00 on food. The rental and participation in gross receipts for food concessions is thus a major revenue source.
Marina and Yacht Clubs:	Long-term users of the site, especially commercial users, can be charged at appropriate rental rates.
Visiting Boat Moorings:	If Hamilton becomes a destination for visiting boats to a significant degree, quite high short-term rental rates per foot can be charged.
Tour Boat and Boat Sale Rentals:	Rental rates to commercial tour boats and to firms selling boats can be significant.
Antique/Farmers Market:	Stalls can be rented to individual antique merchants/farmers, or an overall operation can be granted a concession.
Other Commercial Users:	The site could become popular for limited types of appropriate trade shows, such as boat sales, gardening equipment, sports equipment, etc. These commercial users can be charged a licence fee. The facilities of the Crystal Pavilion can also be rented out.

Funding Sources: Sponsorship

Other similar urban recreational parks have been successful in attracting sponsorship from private corporations. Such funds are of course always contributed in return for some definite and direct marketing, promotional or advertising exposure. The following firms and organizations, should be approached for the Hamilton Waterfront:

Local:

Stelco
Amstel
Defaso
Firestone

National:

Breweries:	Molsons, Carling Labatts
Tobacco Companies:	Rothmans, Imperial Tobacco
Distilleries:	Seagrams
Wineries:	Brights
Food Distributors:	Nabisco, Egg Marketing Board, Milk Marketing Board
Other:	Colgate Pepsi, Coke Local Newspaper, TV, Radio Stations

Banks:

Once more definite facilities and programs are established, a very active fund-raising program should be undertaken, with one full-time person devoted to this activity.

Funding Sources: Government Agencies

Government agencies can be approached for both capital and operating funds. A more detailed account of capital funding sources available will be made at the time of selection of a final alternative, but again, a significant staff commitment to pursuing operating funds on an ongoing basis will pay dividends in generating income for the project.

Traffic and Parking Analysis

6. IMPACT ANALYSIS

6.1 Traffic Impact

An assessment was undertaken of the traffic impacts and improvements that might be associated with the development of the Hamilton Waterfront. The following list of potential improvements is described in detail and Table 1 indicates which of those improvements is considered necessary for the individual plan alternatives.

1. North End Local Traffic Control Plan

The City has proposed a local traffic control plan for the North End. These modifications essentially sever the through functions of Bay St. just north of Simcoe St. By also truncating MacNab St. north of Strachan St., traffic infiltration through the westernmost portions of the North End neighbourhoods, adjacent to the site, will be minimized. One result of these measures will be increased reliance on Strachan St. between Bay and James Streets. The severance of Bay St. does however make more difficult any connection on local streets between the northern and southern parts of the waterfront area.

2. Widen/Upgrade Strachan Street - Bay to John

Strachan St. has the potential to act as a distributor of site-generated traffic to north/south streets. This would involve widening and upgrading Strachan St. to a nominal 11m (36 foot) cross-section which could function as a wide 2-lane road with on-street parking at mid-block segments and provide exclusive turning lanes at key intersections. In addition, the relatively short segment of Bay St. between Strachan St. and the site should be widened to accommodate four traffic lanes. Consideration should be given to altering traffic control regulations along Strachan St. to provide additional priority for east/west flow through the James and Bay intersections.

3. Remove Jog in Dock Service Road

The Dock Service Road is realigned and upgraded in the vicinity of Catharine St. to form a through road with Guise St. Separate turning lanes and improved geometrics to accommodate truck turning movements would be provided on all intersection approaches. This jog currently represents an unnecessary impediment to harbour-related truck movement and reduces Dock Service Road's usefulness as a clear and simple alternative to Burlington Street.

4. Construct Continuous Internal Circulation Driveway

The existing terminus of Leander Dr. is connected through to Bay St. in the Simcoe St. environs. A nominal two-lane width of 10m +/- (33 feet) should suffice. Speed bumps and other control mechanisms are also appropriate for this street.

5. Widen/Upgrade Guise Street

Guise St. and Leander Dr. are upgraded and widened between the site and the Dock Service Road. In association with the removal of the Dock Service Road jog, this improvement would provide a strong northern access to the site. With the "Hamilton Island" alternative, a generous two-lane cross-section (11m +/-) should suffice. In the case of the more intensive "Harbourplace Hamilton" alternative, segments east of James St. should provide for four traffic lanes.

6. Widen/Upgrade Dock Service Road

With the Hamilton Island alternative, only improvements in the geometrics around the north-east corner of Eastwood Park and on the Burlington St. intersection approaches are envisaged. To serve the "Harbourplace Hamilton" concept, widening to a four-lane cross-section is recommended.

TABLE 1: RECOMMENDED ROAD IMPROVEMENTS

	Waterfront Gardens	Hamilton Island	Harbourplace Hamilton
1. City Local Traffic Control Plan - Sever Bay at Simcoe - Cul-de-sac Macnab north of Strachan - Revert Macnab (north of Strachan) to 2-way	●	●	●
2. Widen/Upgrade Strachan-Bay to John	●	●	●
3. Remove jog in Dock Service Road at Catharine/Guise intersection	●	●	●
4. Construct continuous internal circulation driveway - Leander Drive to Bay/Simcoe		●	●
5. Widen/Upgrade Guise Street-Site to Dock Service Road		○	●
6. Widen/Upgrade Dock Service Road - Guise to Burlington		○	●
7. Widen/Extend Strachan Street - John to Victoria /Wellington		*	*

● Full improvement required

○ Partial improvement required

* Alternative (not preferred) improvement. Would require major upgrading of Strachan Street between Bay and John and potentially remove need for improvements 4 and 6.

"WATERFRONT GARDENS"

The relatively low level of intensity and traffic generation of this alternative means that access to the island from one end of the site can be functionally supported without the need for a continuous waterfront circulation road. It should be noted that this is still not the preferred approach from strictly a site accessibility viewpoint. While one primary access cannot serve all key approach corridors, a connection in the area of Bay/Simcoe is preferred over one in the area of Dock Service Road/Guise for the following reasons:

- A Bay/Simcoe access point is consistent with use of the York Boulevard/Bay Street approach/departure route.
- This route provides less circuitous travel, generally particularly for trips oriented towards the west.
- This route incorporated the preferred commercial image of James/John Streets compared to Victoria/Wellington and Burlington Streets.

The upgrading of Strachan St. is however considered necessary to enhance the operational and perceived accessibility of the site and make clear linkages to north/south streets.

A relatively modest level of transit service would likely be provided as an extension of existing route(s), likely the Bayfront service.

"HAMILTON ISLAND"

Joint access to the Island and Pier 4 area from both ends of the site by way of a continuous waterfront circulation driveway is considered essential in order to minimize neighbourhood traffic infiltration. Flexibility afforded by the connection will serve to distribute and hence more quickly dissipate any site-generated traffic surges over a number of major streets. Resultant higher levels of traffic service will reduce the impact of site traffic on the local street network.

A base level of transit service would be provided as an extension of existing route(s), likely the Bayfront service. In addition, a special shuttle bus could be operated on a demand-responsive basis from the downtown area.

"HARBOURPLACE HAMILTON"

The additional road improvements recommended to serve this more intense option involve a further upgrading of the Dock Service Road - Guise St. approach corridor to make a stronger connection to Burlington Street/Q.E.W.

Base transit services, as described previously, will definitely require supplementing with a specialized shuttle service from the downtown core. The preferred routing for such a service would be southbound on John St. looping westbound on Guise/Leander/Waterfront Drive/Strachan and northbound on James to the downtown. A downtown loop connecting the Convention Centre, MacNab, and Main would be important.

This transit service should utilize a vehicle that has conventional operational characteristics, but should be distinctive in some way. Double-decker buses might be used, or buses painted a particular colour.

Costs

Table 2 indicates the initial estimate of the costs associated with each of the traffic improvement packages required for the waterfront development alternatives.

TABLE 2

ROAD IMPROVEMENT COSTS

Alternative	Road Improvement Item	Cost
Waterfront Gardens	Items, 1,2,3	\$ 800,000
Hamilton Island	Items, 1,2,3,5,6	\$ 1,600,000
Harbourplace Hamilton	Items, 1,2,3,5,6	\$ 2,000,000

Notes:

1. Estimates do not include cost of waterfront circulation, road parking and internal service road costs, which are included in later cost.
2. The minimum premium for proceeding with item 7, the at-grade interim Perimeter Road extension, is \$2,000,000.
3. Estimates exclude any property acquisition costs.

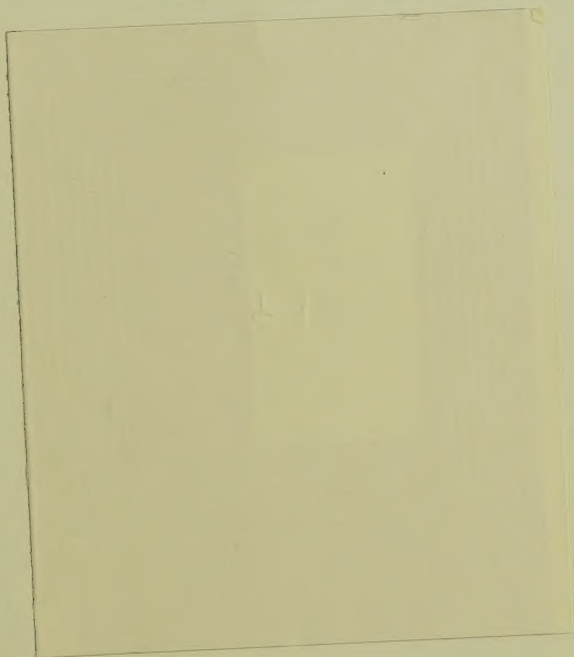
6.2 Parking Requirements

Based on the attendance figures generated in Section 8, parking requirements for the site can be estimated and are listed below.

- | | |
|--------------------------|------------------------|
| 1. Waterfront Gardens | 400-500 parking spaces |
| 2. Hamilton Island | 700 parking spaces |
| 3. Harbourplace Hamilton | 1,250 parking spaces |

Parking for Alternatives 1 and 2 can be accomodated on site in the indicated locations. Parking for Alternative 3 cannot be accomodated on site without provision of an additional new parking area in the area of Pier 4, or on the C.N. Lands.

The provision of a highly frequent and visible shuttle bus service is essential in this alternative and it should be stressed that the parking total estimated is a minimum to accommodate amphitheatre functions.



Environmental Impact

7. ENVIRONMENTAL IMPACT

Any alteration of an existing land mass or water body has the potential to adversely affect the environment. Analysis of the environmental impacts of each of the three development schemes has been completed to facilitate the implementation of a plan which meets today's environmental standards. Where analysis has led to the identification of a potential negative environmental impact, appropriate mitigative measures have been recommended. Particular attention has been given to meeting the requirements of the provincial Environmental Assessment Act to facilitate passage through the approval process and to ensure public acceptance of the proposed design.

Environmental Baseline

The study area at present has several environmental concerns that must be taken into consideration before the analysis of the impacts of development are investigated. The Lax Property and, to some extent, surrounding land masses are poorly constructed to withstand the wave action in the harbour. The result has been a loss of valuable property due to erosion and an increase in the sediment input to a harbour already receiving high sediment loading.

According to Ontario Ministry of the Environment and Federal Fisheries officials, water quality in Hamilton Harbour has improved during recent years, but many parameters still exceed the maximum concentrations suggested in the province's Water Quality Objectives. Large areas of the harbour have been found to contain concentrations of coliform bacteria far in excess of levels acceptable for water contact recreation. Areas low in dissolved oxygen have been documented within the water column. This restricts habitation by many fish species. Harbour sediments have been found to contain elevated levels of many pollutants. This places restrictions on the disposal of dredgeate, and, more seriously, promotes uptake of contaminants into the food chain, eventually contaminating sport fish in the bay.

Recent soil sampling by the Ontario Ministry of the Environment has identified areas on the Lax Property that were devoid of vegetation, as containing high levels of certain trace metals, including lead, zinc and cadmium. A current study by the Regional Municipality of Hamilton-Wentworth will determine the extent of soil contamination and any problems created by metals being leached into the harbour. Results of this study are expected by September, 1985.

In its present state, the environmental quality of the study area is in need of improvement. Effort is needed to control erosion, remove metal contaminated soil and improve the surrounding water quality. A development plan that assumes these responsibilities in its design will ultimately benefit the harbour environment as a whole.

Concept Analysis

Geomorphology:

Containment or removal of contaminated fill from the Lax property will be an integral component of all three development schemes. Removal and disposal methods will depend on studies currently underway to determine the extent of contamination.

The creation of the lagoon and surrounding islands in Scheme 1, creates additional edges which are open to erosion from wave action. Measures to mitigate the erosion will include rip rap and armour stone on both the newly created exposed shores and on existing exposed shores which are currently eroding and adding a sediment to the bay.

Hydrology:

The creation of an island out of Lax is a component common to all development schemes. This should not significantly alter water currents in the harbour as a whole but should improve local circulation in Macassa Cove.

Water circulation within the lagoon should be adequate given the proposed configuration of channels and surrounding islands. The proposed depth of a minimum of at least 8 feet will be required to prevent an unsightly accumulation of aquatic macrophyte vegetation.

Water Quality:

All three development schemes involve similar magnitudes and types of construction and operational activities affecting the water quality of the harbour.

Maintenance of an overall harbour volume is an integral component of promoting its function in sewage assimilation. Scheme 1 will remove approximately 53% more material from the harbour than is added as fill. Schemes 2 and 3 will remove approximately 65% more material from the harbour than is added as fill (Table 3). An overall increase in harbour volume will result from each of the three development concepts helping to maintain its assimilative function.

Landfilling activities will occur in all schemes during the creation of the lagoon at the levels indicated in Table 3. Schemes 2 and 3 involve the additional landfilling for the creation of the marina facilities in Macassa Cove. The effects of landfilling on long-term water quality should be monitored during construction but will be minimized in all cases by the use of uncontaminate fill. Localized, short-term increases in turbidity can be expected as a result of landfilling activities and should be monitored to ensure that unreasonable levels are not occurring.

Dredging will also occur at the levels indicated in Table 3 during the construction phase of all three development schemes. Dredging will be necessary in the creation of the lagoon and the marina facilities to provide adequate depth for boats and to maintain water quality. Dredging of these areas may result in slight, localized increases in turbidity, suspended solids and contaminants as sediments are resuspended. Dredgeate is

unlikely to be suitable for open water disposal. Dredgeates must be tested for contaminants and disposed of appropriately. Consideration may be given to containing dredgeate and the metal contaminated fill from the Lax Property, in an on-site structure.

TABLE 3

**Aproximations of the Volume of Material Filled and Dredged
in Each Proposed Development Scheme**

Scheme	Volume Dredged (m³)	Volume Filled (m³)
1	117,000	55,000
2	109,000	39,000
3	109,000	39,000

A storm sewer outlet, currently located at the base of the Lax Property will remain in place as a part of all three plans.

Creation of the island may cause circulation of the sewer's effluent to Macassa Cove. This sewer is tied into the sanitary sewer system during exceptionally high rains, three or four times a year. To minimize the potential risk of industrial pollutants being distributed to the cove, a boom barrier should be constructed around the outlet to contain oils and flooding debris as has been done elsewhere in the harbour.

The creation of small islands in Scheme 1 introduces the greatest risk of water quality degradation as a result of erosion. Erosion will cause increased sediment loading to a harbour already receiving excessive quantities. Proper erosion control techniques must be implemented as a part of all development schemes. These should have the added benefit of improving conditions presently existing at the site.

The marina facilities proposed in Schemes 2 and 3 increase the potential for oil spills and bilge pumping which can lead to deteriorated water quality. The improved circulation in Macassa Cove as a result of the creation of an island out of the Lax Property should help to mitigate potential environmental impacts by increasing the flushing of the marina area. Measures should be taken to ensure that appropriate fueling procedures are carried out by marina operators.

In summary, adverse effects on water quality from activities involved in all three development schemes should be minimal. Long-term water quality could be expected to improve as circulation is increased and better erosion control techniques are implemented.

Air Quality:

Negative impacts on air quality from construction or operation of all development schemes are not anticipated.

Climate:

Negative impacts on climate are not expected as a result of construction or operation of any development schemes.

Aquatic Flora:

Dredging and landfilling activities associated with each of the development schemes will have a similar effect on aquatic vegetation. Minor macrophyte beds will be eliminated in dredging Macassa Cove, the lagoon and the channel on the west side of the Lax Property. None of the existing species in these locations have been identified as being rare or endangered.

Terrestrial Flora:

The existing terrestrial flora on the Lax Property and major parking areas will be removed by all development schemes. No rare or endangered species have been identified in the present community of shrubs and grasses. Landscaping of the property will improve its aesthetic appeal and will also reduce erosion of the current shrub covered areas.

Aquatic Fauna:

Landfilling and dredging activities associated with each of the development schemes will reduce the habitat available to warm water fish species to a certain extent by reducing the amount of available littoral zone. The elimination of macrophytes by these activities can be expected to reduce the abundance of the invertebrate food source of many fish species. There is no evidence, however, to suggest that the study site is of particular significance to fish in terms of spawning, nursery areas or as a major habitat.

Development designed to increase the habitat available to fish can be incorporated into all of the schemes. Rip rap used in erosion control is a good point

of colonization for periphytonm and will result in increased invertebrate populations which are a major food source for many fish species. Extension of small underwater points of rip rap into the harbour will increase the food and habitat available to fish.

The construction of the lookout platform and marina docks in all schemes and the floating boardwalk, will artificially replace some of the cover for fish which has been lost due to other activities. Artificial reefs or rubble have been used successfully under docks to increase fish habitat and concentrate fish. Fisheries enhancement projects could be a joint venture with interested local sporting clubs.

Terrestrial Fauna:

The present configuration and isolation of the study area offers some nesting habitat to a variety of bird species. Various species of waterfowl also use the harbour within the study area.

The implementation of any of the three development schemes will alter the present habitat and cause a shift to wildlife species more tolerant of urban activities, but not necessarily a reduction in overall numbers or diversity. The Waterfront Gardens (Scheme 1) should enhance the diversity of bird species found on the Lax Property by the creation of a variety of vegetative communities.

All development schemes involve leaving an open lawn area on the Lax property and open space on Pier 4. Large areas of open space have been found to be responsible for an overabundance of Canada Geese in many parklands. Excessive numbers of geese can foul parkland with feces, making it less desirable for human leisure activities. The only successful control technique used in Toronto parkland so far involves the removal of both eggs and adult flightless birds.

The opening of food concessions in close proximity to the harbour is included in all development plans and may cause problems with gulls. Excessive numbers of gulls can foul buildings, boats and picnic areas as well as harassing picnickers by begging for handouts. Experience in Toronto parklands has found that monofilament netting over food outlets and picnic areas can deter gulls from using these areas. Loafing of gulls can be discouraged by erecting visual barriers such as hedgerows or fences, obstructing their view of the horizon. Gulls frequently foul rooftops or light standards when roosting. This can be discouraged by installing Nixalite (tape with protruding wires) on these areas. Completely enclosed trash receptacles that are emptied frequently will also deter gulls from an area.

Noise:

Noise levels will be elevated during the construction and operation of all development schemes.

The Waterfront Gardens (Scheme 1) should generate the lowest level of noise above the background level already present. This low intensity scenario should not require any mitigative measures, other than landscaping, to reduce noise impact on the surrounding residential areas.

Schemes 2 and 3 involve considerably more active facilities which are likely to draw a larger crowd. The expansion of present marina facilities in both schemes will lead to an increase in noise from the increased traffic flow and boating activities. The bandshell proposed in Scheme 2 will also cause an elevation in noise levels when it is being used. A full amphitheatre, as proposed in Scheme 3, will likely produce the greatest increase in noise levels of any of the development scenarios.

Mitigative measures to reduce the noise impact of these activities should include: landscaping around the bandshell or amphitheatre to trap noise, restriction of "noisy" events, restriction of performance to certain days and hours and, if noise is thought to be a serious problem, some form of barrier. During the construction phase of the development, the operation of heavy machinery should be restricted to daylight hours.

Summary

1. Adverse effects on water quality from activities involved in all three development schemes should be minimal. Local, long-term water quality could be expected to improve as circulation is increased and better erosion control techniques are implemented.
2. Each development scheme will result in an overall increase in harbour volume, maintaining or slightly improving the ability of the harbour to assimilate sewage.
3. Minor changes in the species composition of terrestrial flora and fauna can be expected from each development scheme.
4. No rare or significant species of flora or fauna have been identified in the study area.
5. No areas of significance to fish or wildlife species in terms of reproduction, feeding or habitat have been identified in the study area.
6. Increased noise levels can be expected with each of the proposed schemes, but mitigation is possible.

Recommendations

1. The recommendations of the Regional Municipality of Hamilton-Wentworth Department of Engineering and the Ministry of the Environment regarding the removal and disposal of contaminated soil in the Lax Property should be integrated into the implementation scheme for the project.
2. During construction involving dredging and filling operations, a monitoring program should be undertaken to ensure that unforeseen levels of contamination or turbidity are not damaging the ecology of the harbour.

3. Dredgeates and fill should all be tested for contaminants prior to their disposal or use and disposed of appropriately.
4. A boom barrier should be constructed around the outlet of the storm sewer at the base of the Lax property to contain oil and floating debris.
5. Improvements to fish habitat and benthic invertebrate habitat can be integrated into current development schemes at very little additional cost and should be considered when detailed designs are drawn. Fisheries enhancement projects should involve local sporting clubs.
6. Measures suggested in the report for deterring gulls from the Lax Property should be considered when designing the parklands.

Operating Characteristics

8. OPERATING CHARACTERISTICS

The information on the following tables for each of the alternatives indicates the attendance, revenue generation, operating costs and net revenue contribution to the project's overall operation. The figures indicated are in order of magnitude.

The attendance figures associated with each element in each concept assumes that all the other elements in that scenario are in place. Those attendance figures might vary if any of the other items were deleted.

The figures do not include the costs and revenues associated with the activity and event programming indicated for the Crystal Pavilion because these programs are only very initially described. Section 5, however, describes the potential sources of operating revenue and funding for such activities.

No figure is included for general site maintenance for areas not covered by one of the specific programs and elements listed. An estimate of approximately \$5,000 per acre is anticipated on the basis of Toronto Island costs. .

OPERATING CHARACTERISTICS:

THE WATERFRONT GARDENS

MAJOR ELEMENTS	POTENTIAL ATTENDANCE/ DEMAND	POTENTIAL REVENUE GENERATED	APPROXIMATE OPERATING COSTS	POTENTIAL CONTRIBUTION TO OVERALL CONTEXT	CONCLUSIONS/COMMENTS
1. Boulevard of Gardens/ International Gardens/ Enchanted Islands Area (general site visitation)	250,000 - 3,000,000 - free admission will result in high repeat visitation from local area residents.	no admission fees to this area, therefore no revenue generated.	\$20,000 per acre - assumes some volunteer, supervisory labour. 6 acres, estimate \$120,000.	(\$120,000)	- this concept does not have any strong demand generating elements with respect to the tourist market. - the site will act as a city/regional park and since there will be no admission, will generate a high level of repeat business from these markets.
2. The Lawn (festivals and events)	- potential attendance totally dependent on programming and events that occur. - space to be made available to various community groups who want space for events and programs.	- any revenues generated will go to event/festival organizers. - could possibly charge a small fee for each event	maintenance and clean up costs will be required	costs will be included in overall site maintenance.	
3. Crystal Palace (flower shows)	- mum's show 40,000 - other shows 40,000 (estimate) - Total 80,000	presently free admission to flower shows. Assuming this continues, no revenue generated.	N/A	N/A	

OPERATING CHARACTERISTICS:

HARBOURPLACE HAMILTON/continued

MAJOR ELEMENTS	POTENTIAL ATTENDANCE/ DEMAND	POTENTIAL REVENUE GENERATED	APPROXIMATE OPERATING COSTS	POTENTIAL CONTRIBUTION TO OVERALL CONTEXT	CONCLUSIONS/COMMENTS
8. Boat Tours (a) Harbour Cruise . sightseeing . evening/ dinner . charters (b) RBG . small barge style	55,000 65,000 round trip	Ticket Price \$7.00 Food \$1.00 Revenue \$440,000 \$1.00 per person \$65,000	\$225,000 \$100,000-\$150,000 estimated	. assume operated commercially and fee of 5% of gross revenues paid for dockage, etc. . potential contribution \$22,000. (\$50,000 - \$100,000)	. vessel will be required to accommodate 175 persons.
9. Restaurant/ Commercial Space	. approximately 500,000 - 600,000 person visits per year to restaurants and merchandise/ specialty shopping area.	Average Expenditure Food Service \$4.00 \$2,000,000 - \$2,400,000 revenue Merchandise \$2.50 \$1,250,000 - \$1,500,000 revenue	. assume operated on a commercial basis.	. lease at 5% of gross revenue could generate \$200,000 contribution.	. does not account for business generated by hotel or residential/ commercial development. . will be a mix of concessions, fast food areas and 1-2 full service restaurants, plus a themed specialty shopping village.

OPERATING CHARACTERISTICS:

HARBOURPLACE HAMILTON/continued

MAJOR ELEMENTS	POTENTIAL ATTENDANCE/ DEMAND	POTENTIAL REVENUE GENERATED	APPROXIMATE OPERATING COSTS	POTENTIAL CONTRIBUTION TO OVERALL CONTEXT	CONCLUSIONS/COMMENTS
5. Crystal Pavillion - flower shows - recreational and cultural events	Flower Shows 80,000 other attendance is dependent on nature of programming and events.	- free, no revenue generated. - should be set to cover program operating costs.	- Not Available - Not Available	Not Available but will likely be significant.	operation of Crystal Pavillion recreational and cultural events will require extensive staff support, particularly if programs are operated on a year-round basis.
6. Imax/ Omnimax	172,500 - 220,000 (maximum 375 seat theatre) assumes full operations in summer and special film festivals (4-5) during the off-season.	- average admission \$3.00 \$517,500 - \$660,000	\$240,000 - \$260,000	\$277,500 - \$400,000 - assumes operation by city and not a commercial development.	
7. Hamilton/ Scourge Replicas	for viewing: 172,500 - 275,000 charter only 14 weeks, 4/week.	\$2.00 admission \$345,000 - \$550,000 \$500/charter - \$28,000	\$240,000 (including allowance for dry dock every 4-5 years). - assumes sea cadets provide volunteer crew. - assume that revenues cover additional costs such as fuel, marketing and insurance.	\$105,000 - \$310,000	should be located on wharf within a themed setting with people in period costumes able to act as guides/ interpreters. This is important to give the overall experience and make the replicas interesting to the tourist markets.

OPERATING CHARACTERISTICS:

HARBOURPLACE HAMILTON

MAJOR ELEMENTS	POTENTIAL ATTENDANCE/ DEMAND	POTENTIAL REVENUE GENERATED	APPROXIMATE OPERATING COSTS	POTENTIAL CONTRIBUTION TO OVERALL CONTEXT	CONCLUSIONS /COMMENTS
1. Boulevard of Gardens/ International Gardens (general site visitation)	330,000 - 385,000	free admission, no revenue generated.	\$20,000 acre 4 acres estimated total \$80,000 - assumes some volunteer supervisory labour.	(\$80,000)	this attendance level includes visitation to garden areas by people visiting other elements on the site.
2. Children's Play Area (McMagic)	90,000 - 100,000	\$250,000 - \$275,000 (admission \$2.75 per person)	\$100,000	\$12,500 to \$14,000 assuming lease payment of 5% of gross revenue.	- commercial development opportunity. - would broaden appeal of concept to family market; and assist in increasing profile of the site.
3. Amphitheatre	220,000 (for evening show if major entertainers and performers are incorporated in the programs).	\$1,760,000 assuming average ticket revenue of \$8.00.	estimated at \$1,400,000 to \$1,500,000	\$160,000 to \$360,000	- could act as a demand generator for the site. - programming is essential to success of amphitheatre. - this is not likely a commercial development opportunity and would have to be developed with public funds.
4. Festivals/ Events Area	potentially attendance depends totally on programming and events that occur.	- revenues generated would go to organizers. - could charge a fee for use of space and amphitheatre to cover clean up costs.	included in overall site maintenance.	costs will be included in overall site maintenance.	attendance at festivals/ events will be somewhat restricted by space available for these activities.

OPERATING CHARACTERISTICS:

HAMILTON ISLAND/continued

MAJOR ELEMENTS	POTENTIAL ATTENDANCE/ DEMAND	POTENTIAL REVENUE GENERATED	APPROXIMATE OPERATING COSTS	POTENTIAL CONTRIBUTION TO OVERALL CONTEXT	CONCLUSIONS/COMMENTS
7. Boat Tours (a) Harbour Cruise . sightseeing . evening/ dinner . charters (b) RBG . small barge style	50,000 60,000 round trips	Ticket Price \$7.00 Food \$1.00 Revenue \$400,000 \$1.00 per person \$60,000	\$225,000 \$100,000-\$150,000 estimated	- assume operated commercially and fee of 5% of gross revenues paid for dockage, etc. - potential contribution \$20,000. (\$50,000 - \$100,000)	the harbour cruise may not be commercially viable at this level of demand.

OPERATING CHARACTERISTICS:

HAMILTON ISLAND/continued

MAJOR ELEMENTS	POTENTIAL ATTENDANCE/ DEMAND	POTENTIAL REVENUE GENERATED	APPROXIMATE OPERATING COSTS	POTENTIAL CONTRIBUTION TO OVERALL CONTEXT	CONCLUSIONS/COMMENTS
4. Crystal Pavillion • flower shows • programming - cultural, recreational events	Flower Shows 80,000 (see Waterfront Gardens) • attendance at programmed activities is dependent on the type activity. No estimate available.	free admission no revenue • program fees should be set to cover program operating costs.	N/A	• not available but will likely be significant.	
5. Restaurant/ Retail Areas	• approximately 400,000 - 500,000 person visits to food service and retail areas.	Average Expenditure Food Service \$3.00 \$1,200,000 - \$1,500,000 revenue Merchandise \$1.50 \$600,000 - \$750,000 revenue	• assume operated on a commercial basis.	• lease at 5% of gross revenue could generate up to \$112,000 in contribution	• there will be sufficient market support for a mix of concessions, fast food areas and perhaps one full service restaurant, plus a number of specialty merchandise outlets.
6. Hamilton/ Scourge Replica	• for viewing: 150,000 - 250,000 • charter only: 14 weeks, 4/week	Admission \$2.00 \$300,000 - \$500,000 \$500 per charter Total \$28,000	\$240,000/ (including allowance for dry dock every 4 - 5 years) • assume sea cadets (volunteer crew) • assume that revenues cover additional costs such as fuel, marketing, insurance.	\$60,000 - \$260,000	• should be located on wharf within a themed setting with people in period costumes able to act as guides/interpreters. This is important to give the overall experience and make the replicas interesting to the tourist market.

OPERATING CHARACTERISTICS:

HAMILTON ISLAND

MAJOR ELEMENTS	POTENTIAL ATTENDANCE/ DEMAND	POTENTIAL REVENUE GENERATED	APPROXIMATE OPERATING COSTS	POTENTIAL CONTRIBUTION TO OVERALL CONTEXT	CONCLUSIONS/COMMENTS
1. Boulevard of Gardens/ International Gardens (general site visitation)	300,000 - 350,000	free admission, no revenue generated.	\$20,000/acre . 4 acres estimated Total \$80,000 . assumes some volunteer supervisory labour.	(\$80,000)	- assumes that the gardens are the same size as under Waterfront Gardens. This is important to provide an area and entertainment value significant enough to attract visitation. - this attendance level includes visitation to gardens area by people visiting other elements on the site.
2. Imax/Omnimax Theatre	150,000 - 200,000 (maximum 325 seat theatre) . assumes full operation in summer and special film festivals (3-5) during the off-season.	\$450,000 - \$600,000 . average admission \$3.00	\$225,000-\$250,000	\$225,000 - \$350,000 . assuming operation by city and not a commercial development.	this is not a commercial development because of high capital costs and the cost of making a film which is not included in the operating costs.
3. Festival Area with Bandshell/Stage	. potential attendance totally dependent on programming and events that occur.	. any revenues generated will go to event/festival organizers. . could charge a small fee for each event.	. maintenance and clean up will be required for this area	. costs of maintenance will be included in overall site maintenance.	

OPERATING CHARACTERISTICS:
THE WATERFRONT GARDENS/continued

MAJOR ELEMENTS	POTENTIAL ATTENDANCE/ DEMAND	POTENTIAL REVENUE GENERATED	APPROXIMATE OPERATING COSTS	POTENTIAL CONTRIBUTION TO OVERALL CONTEXT	CONCLUSIONS/COMMENTS
4. Restaurant/ Pavillion (on lagoon) - fast food concession style	75,000 patrons	\$2.50 per person \$187,500 total revenue	\$130,000 including labour, cost of goods and other operating costs.	- if operated by the city: \$57,500. - if leased to a private concessionaire then fee of 5 - 10% of revenues or \$10,000 - \$18,000.	at this location could only be a seasonal operation because of accessibility and servicing problems during winter months.
5. Tour Boats (a) Harbour Cruise - sightseeing - evening/dinner - charters (b) RBG - small barge style to ferry people from RBG to Lax	45,000 55,000 round trips	Ticket Price \$7.00 Food and Beverage Revenue \$360,000 \$1.00 per person \$55,000	Total Operating Costs \$225,000 \$100,000 - \$150,000 estimated	- if operated by the city, potential contribution is \$135,000. - if operated privately and dockage space leased, contribution would be \$18,000. (\$50,000 - \$100,000)	on this scale, this is not a commercial development opportunity and would have to be operated by the city or some other organization.
6. Restaurant/ Concession stands on bridge and/or wharf	200,000 patrons	Average Expenditure Food \$2.00 Revenue \$400,000 Merchandise \$1.00 \$200,000 revenue	assume operated on a commercial basis, with space leased to concession operators.	space leased at 5% of gross revenues contribution \$30,000.	

Capital Costs

9. CAPITAL COSTS

A detailed capital cost breakdown was commissioned for each of the three schemes, broken out by elements and by unit prices.

As far as possible, the figures reflect only public investments rather than direct private investments such as a hotel. Allowances are however, made for the construction of the shell of commercial restaurants and concessions which would be leased and finished by private operators. The figures include contingencies and construction overhead and profit, but do not include professional fees, other fees, levies, licences, permits and related soft costs.

All of the estimates quoted will be subject to detailed confirmation once a final scheme has been decided upon and several of the estimates are in the form of allowances. The municipal service costs in particular must be estimated more specifically for the final scheme.

The off-site road improvement costs provided in Section 6 have not been included in these estimates but on-site roads and parking are included.

TOTAL CAPITAL COSTS

Waterfront Gardens	\$ 19,428,000
Hamilton Island	27,160,000
Harbourplace Hamilton	31,031,000

Alternative
Scheme 1

Waterfront Gardens

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HAMILTON WATERFRONT STUDY
Scheme No. 1
Coombes/Kirkland/Berridge
24 July 85 Gross Floor Area

85971
N76 Rev 01.b
416 978 9040
310,095 m2
SID 05245

Element	Amount	Cost per m2		Total	%
1 Substructure	0				
(a) Normal Foundations	0	0.00			
(b) Basement Excavation & Backfill	0	0.00			
(c) Special Foundations	0	0.00	0.00	0	0
2 Structure	0				
(a) Lowest Floor Construction	0	0.00			
(b) Upper Floor Construction	0	0.00			
(c) Roof Construction	0	0.00	0.00	0	0
3 Exterior Cladding	0				
(a) Roof Finish	0	0.00			
(b) Walls Below Ground Floor	0	0.00			
(c) Walls Above Ground Floor	0	0.00			
(d) Windows	0	0.00			
(e) Exterior Doors & Screens	0	0.00			
(f) Projections	0	0.00	0.00	0	0
4 Interior Partitions & Doors	0				
(a) Permanent Partitions & Doors	0	0.00			
(b) Movable Partitions & Doors	0	0.00			
(c) Glazed Partitions & Doors	0	0.00	0.00	0	0
5 Vertical Movement	0				
(a) Stairs	0	0.00			
(b) Elevators & Escalators	0	0.00	0.00	0	0
6 Interior Finishes	0				
(a) Floor Finishes	0	0.00			
(b) Ceiling Finishes	0	0.00			
(c) Wall Finishes	0	0.00	0.00	0	0
7 Fittings & Equipment	0				
(a) Fittings & Fixtures	0	0.00			
(b) Equipment	0	0.00	0.00	0	0
8 Services	0				
(a) Electrical	0	0.00			
(b) Plumbing & Fire Protection	0	0.00			
(c) Heating Ventilation Air Conditioning	0	0.00	0.00	0	0
9 Site Development	14228000				
(a) General	13053000	42.09			
(b) Services	975000	3.14			
(c) Alterations	100000	0.32			
(d) Demolition	100000	0.32	45.88	14228000	73
10 Overhead & Profit	1500000				
(a) Site Overhead	1000000	3.22			
(b) Head Office Overhead & Profit	500000	1.61	4.84	1500000	8
11 Contingencies	3700000				
(a) Design Contingency	2000000	6.45			
(b) Escalation Contingency	700000	2.26			
(c) Post Contract Contingency	1000000	3.22	11.93	3700000	19

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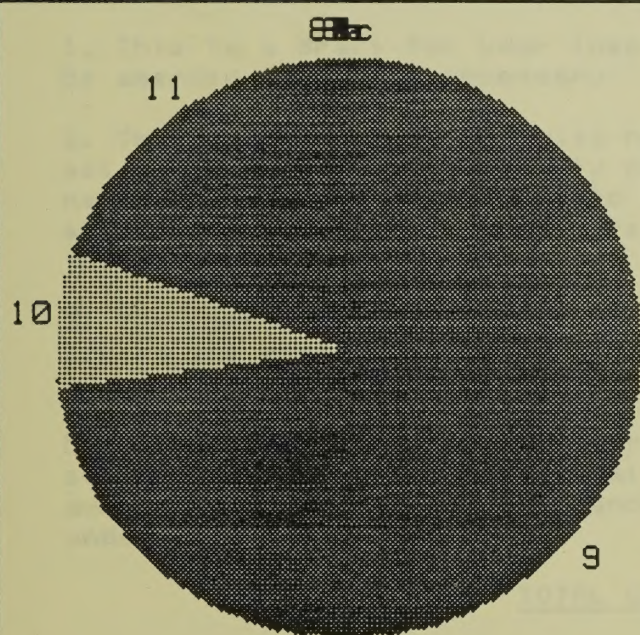
HAMILTON WATERFRONT STUDY
Scheme No. 1
Coombes/Kirkland/Berridge
24 July 85 Gross Floor Area

85971
N76 Rev 01.b
416 978 9040
310,095 m2
SID 05245

PERCENTAGE DISTRIBUTION OF CONSTRUCTION COSTS

As of Above Date

As of Bid Date

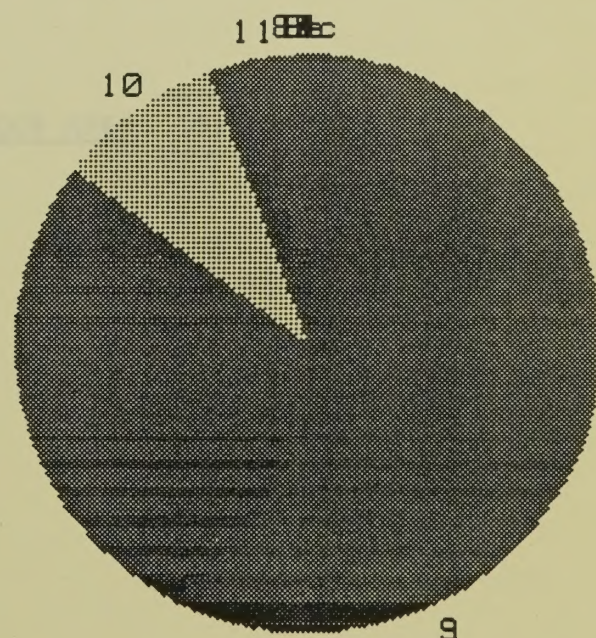


1	Substructure	0	0%
2	Structure	0	0%
3	Exterior Cladding	0	0%
4	Partitions & Drs	0	0%
5	Vertical Movement	0	0%
6	Interior Finishes	0	0%
7	Fittings & Equip	0	0%
8a	Electrical	0	0%
8bc	Mechanical	0	0%
9	Site Development	16670000	86%
10	Overhead & Profit	1758000	9%
11	Contingencies	1000000	5%

Total 19428000 100%

1	Substructure	0	0%
2	Structure	0	0%
3	Exterior Cladding	0	0%
4	Partitions & Drs	0	0%
5	Vertical Movement	0	0%
6	Interior Finishes	0	0%
7	Fittings & Equip	0	0%
8a	Electrical	0	0%
8bc	Mechanical	0	0%
9	Site Development	14228000	73%
10	Overhead & Profit	1500000	8%
11	Contingencies	3700000	19%

Total 19428000 100%



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Scheme No. 1
Coombes/Kirkland/Berridge
23 July 85 Document Tape 66 File 97101b
85971
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416 978 9040
66 File 97101b

Description	Trade	Quantity	Rate	Amount
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0 GROSS FLOOR AREA

Site Area		243308 m2		
Lagoon		16942 m2		
Rowing Canoe Course		48729 m2		
Water		1116 m2		

Note:

1. This is a draft for your inspection, to be amended as may be necessary.

2. The design contingency, 11a has been set to recognize the extremely preliminary nature of the project and would be reduced as the design develops and more information becomes available.

3. The cost escalation contingency, 11b covers the period July 1985 to July 1986.

4. The post contract contingency has also been set recognizing the very preliminary stage of design, little information is available regarding sub soil and underwater conditions.

0 m2

<u>TOTAL GROSS FLOOR AREA</u>	<u>310095 m2</u>
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Description	Trade	Quantity	Rate	Amount
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9 SITE DEVELOPMENT

(A) GENERAL

LAND RECONFIGURATION

Site containment estimate by Stevenson
Hluchan including

1 Lax Property - form into island				
- shore protection		900 m1	830.00	747000
2 Macassa Cove - enlarge landfill side				
- dredge eastern end				
- dredging		117000 m2	7.00	819000
3 Concrete Pod/Lookout		2040 m2	200.00	408000

MAJOR LANDSCAPE FEATURES

6 Boulevard of Gardens

limestone fines and stone edging	12211 m2	7.00	85477
fountains	3 no	25000.00	75000

7 International Gardens

plant material by others			
haul in topsoil and grade	7037 m2	20.00	140740
edge treatment	792 m1	50.00	39600
lighting and water supply	7037 m2	3.00	21111

4 The Islands

new islands - form islands (see
estimate by Stevenson/Hluchan)

planting and landscaping - shrubs and oriental trees	30000 m2	20.00	600000
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Description	Trade	Quantity	Rate	Amount
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pedestrian bridges to islands		1s		140000
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grottos, ruins, temples, mazes, etc		1s		100000
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5 The Lagoon

shallow to permit freezing (see
estimate by Stevenson/Hluchan)

floating dock		50 m2	250.00	12500
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lighting - performance, winterized for skating		1s		25000
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8 The Lawn

topsoil, sod, plantings		21059 m2	10.00	210590
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barbecue stands and tables		50 no	500.00	25000
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3 Lookout

piled structure (see estimate by
Stevenson/Hluchan)

gazebo - 40' diameter circle cone shaped wood construction		116 m2	300.00	34800
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surface treatment of piled structure - concrete deck with architectural finish		2040 m2	60.00	122400
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9 Groves of Trees

topsoil, plantings, sod		30000 m2	10.00	300000
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large trees		400 no	750.00	300000
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10 Pathways

limestone fines and edge treatment		5441 m2	10.00	54410
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service road - asphalt		2100 m2	15.00	31500
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11 Fishing Area

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HAMILTON WATERFRONT STUDY
Scheme No. 1
Coombes/Kirkland/Berridge
23 July 85 Document Tape

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66 File 97101b

Description	Trade	Quantity	Rate	Amount
allowance - see also 3		1s		5000
12 Waterfront Walk				
bituminous paving		908 m2	13.00	11804
concrete sidewalk to service road		2324 m2	25.00	58100
floating boardwalk (see estimate by Stevenson/Hluchan)		600 m1	1000.00	600000
13 Pier 4 Park				
lookouts		2 no	20000.00	40000
double rows of trees (3644m2), 5" caliper		350 no	200.00	70000
walkway		396 m2	20.00	7920
topsoil and sod		20064 m2	2.50	50160
14 Guise St./Leander Drive				
make good		1200 m1	20.00	24000
trees		240 no	250.00	60000
grassed verge		1s		10000
fencing		1s		20000
PUBLIC BUILDINGS				
15 Crystal Palace (\$1763000)				
1a foundations		1200 m2	100.00	120000
2a lowest floor		1200 m2	30.00	36000
2b structural floor - nominal		400 m2	100.00	40000
2c roof structure		1200 m2	100.00	120000
3a roof glazing		1700 m2	450.00	765000

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HAMILTON WATERFRONT STUDY
Scheme No. 1
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23 July 85 Document Tape 66 File 97101b

85971

N76 Rev 01.b

416 978 9040

97101b

Description	Trade	Quantity	Rate	Amount
3c wall glazing		1200 m2	300.00	360000
3e entrances		2 no	10000.00	20000
4a interior partitions		400 m2	30.00	12000
5a stairs		30 m1	200.00	6000
6a floor finishes		1500 m2	40.00	60000
6c wall finishes		800 m2	5.00	4000
7a fittings and fixtures		1s		40000
7b equipment - not included				
8 mechanical and electrical		1200 m2	150.00	180000
16 Support Greenhouses				
greenhouses		422 m2	500.00	211000
17 Restaurant/Dance Pavillion				
new concession building		50 m2	800.00	40000
open patio/dance areas		500 m2	50.00	25000
limestone fines and edge treatment		4266 m2	10.00	42660
wood steps		120 m1	100.00	12000
detail		1s		50000
18 School-by-the-Water				
make good and partition existing building		693 m2	200.00	138600
WATERFRONT ACTIVITIES				
19 The Wharf				
docking facilities - bin wall		560 m1	2700.00	1512000
poured concrete and brick pavings		2461 m2	90.00	221490

A.J. VERMEULEN
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HAMILTON WATERFRONT STUDY
Scheme No. 1
Coombes/Kirkland/Berridge
23 July 85 Document Tape 66 File 97101b

85971

N76 Rev 01.b

416 978 9040

66 File 97101b

Description	Trade	Quantity	Rate	Amount
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11 Tour Boats - tour boats by others

ticket booth		2 no	5000.00	10000
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20 Aerial Gondola

loading areas		2 no	10000.00	20000
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lift 420m, 6 person cabs, 300 people per hour - allowance		1s		1000000
--	--	----	--	---------

21 Rowing and Canoe Course

canoe rental area and storage		1s		25000
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obstacle course		1s		30000
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EVENT PROGRAMMING

- no associated costs are assumed

COMMERCIAL DEVELOPMENT

Bridge

restaurants		630 m2	1000.00	630000
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concessions		4 no	20000.00	80000
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bridge - railings and finish		1849 m2	400.00	739600
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17 Restaurant/Dance Pavilion

see above

19 The Wharf

allowance for restaurants or concessions		1s		100000
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Scheme No. 1
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97101b

Description	Trade	Quantity	Rate	Amount
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ROAD SYSTEM AND PARKING

23 Major Parking Lot (500 cars)

bituminous paving		21308 m2	15.00	319620
landscaping and trees - to median strips		15670 m2	30.00	470100
gates		4 no	2000.00	8000
paint stalls		500 no	7.00	3500

24 Minor Parking Lot (80 cars)

bituminous paving		6446 m2	15.00	96690
gates		4 no	2000.00	8000
paint stalls		80 no	10.00	800

25 Road Access

Strachan Ave.- upgrade		1s		20000
- connect		1s		20000
Macassa/Marina - pave		4906 m2	30.00	147180
- curbs and walks		2000 m2	30.00	60000

TOTAL 9(A) GENERAL 13053352

(B) SERVICES

Allowance for:

Water - fresh		1s		50000
- lake		1s		25000
Drainage - storm		1s		340000
- sanitary		1s		100000
- lift station		1s		35000
Power		1s		100000

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Description	Trade	Quantity	Rate	Amount
Surface - water		1s		25000
- lighting and outlets		1s		300000
<u>TOTAL 9(B) SERVICES</u>				<u>975000</u>

(C) ALTERATIONS

Allowance for work outside and adjacent to site		1s		100000
<u>TOTAL 9(C) ALTERATIONS</u>				<u>100000</u>

(D) DEMOLITION

Allowance for demolition of existing structures		1s		100000
<u>TOTAL 9(D) DEMOLITION</u>				<u>100000</u>
<u>TOTAL 9 SITE DEVELOPMENT</u>				<u>14228352</u>

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HAMILTON WATERFRONT STUDY
Scheme No. 1
Coombes/Kirkland/Berridge
23 July 85 Document Tape 66 File 97101b

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N76 Rev 01.b

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66 File 97101b

Description

Trade Quantity

Rate Amount

10 OVERHEAD & PROFIT

(A) SITE OVERHEAD

General contractors site expenses
including access, site accommodation &
protection, temporary services, cleanup,
supervision, insurances, bonds, equipment,
winter conditions, etc.

1s

1000000

TOTAL 10(A) SITE OVERHEAD 1000000

(B) HEAD OFFICE OVERHEAD & PROFIT

General contractor's head office overhead
and profit

1s

500000

TOTAL 10(B) HEAD OFFICE OVERHEAD & PROFIT 500000

TOTAL 10 OVERHEAD & PROFIT 1500000

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Scheme No. 1
Coombes/Kirkland/Berridge
23 July 85 Document Tape 66 File 97101b

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416 978 9040

Description	Trade	Quantity	Rate	Amount
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11 CONTINGENCIES

(A) DESIGN CONTINGENCY

Design contingency for changes to the project during the design phase		1s		2000000
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<u>TOTAL 11(A) DESIGN CONTINGENCY</u>				<u>2000000</u>
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(B) ESCALATION CONTINGENCY

Escalation contingency for cost increases due to inflation for the 12 month period to July 1986		1s		700000
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<u>TOTAL 11(B) ESCALATION CONTINGENCY</u>				<u>700000</u>
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(C) POST CONTRACT CONTINGENCY

Post contract contingency for changes during the construction period to allow for extra costs caused by site conditions, changes made by consultants, users, regulatory bodies, etc.		1s		1000000
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<u>TOTAL 11(C) POST CONTRACT CONTINGENCY</u>				<u>1000000</u>
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<u>TOTAL 11 CONTINGENCIES</u>				<u>3700000</u>
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Alternative
Scheme 2

Hamilton Island

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HAMILTON WATERFRONT STUDY
Scheme No. 2
Coombes/Kirkland/Berridge
24 July 85 Gross Floor Area

85971
N76 Rev 02.b
416 978 9040
259,585 m2
SID 05246

Element	Amount	Cost per m2		Total	%
1 Substructure	0				
(a) Normal Foundations	0	0.00			
(b) Basement Excavation & Backfill	0	0.00			
(c) Special Foundations	0	0.00	0.00	0	0
2 Structure	0				
(a) Lowest Floor Construction	0	0.00			
(b) Upper Floor Construction	0	0.00			
(c) Roof Construction	0	0.00	0.00	0	0
3 Exterior Cladding	0				
(a) Roof Finish	0	0.00			
(b) Walls Below Ground Floor	0	0.00			
(c) Walls Above Ground Floor	0	0.00			
(d) Windows	0	0.00			
(e) Exterior Doors & Screens	0	0.00			
(f) Projections	0	0.00	0.00	0	0
4 Interior Partitions & Doors	0				
(a) Permanent Partitions & Doors	0	0.00			
(b) Movable Partitions & Doors	0	0.00			
(c) Glazed Partitions & Doors	0	0.00	0.00	0	0
5 Vertical Movement	0				
(a) Stairs	0	0.00			
(b) Elevators & Escalators	0	0.00	0.00	0	0
6 Interior Finishes	0				
(a) Floor Finishes	0	0.00			
(b) Ceiling Finishes	0	0.00			
(c) Wall Finishes	0	0.00	0.00	0	0
7 Fittings & Equipment	0				
(a) Fittings & Fixtures	0	0.00			
(b) Equipment	0	0.00	0.00	0	0
8 Services	0				
(a) Electrical	0	0.00			
(b) Plumbing & Fire Protection	0	0.00			
(c) Heating Ventilation Air Conditioning	0	0.00	0.00	0	0
9 Site Development	19160000				
(a) General	17960000	69.19			
(b) Services	1000000	3.85			
(c) Alterations	100000	0.39			
(d) Demolition	100000	0.39	73.81	19160000	71
10 Overhead & Profit	2400000				
(a) Site Overhead	1600000	6.16			
(b) Head Office Overhead & Profit	800000	3.08	9.25	2400000	9
11 Contingencies	5600000				
(a) Design Contingency	3000000	11.56			
(b) Escalation Contingency	1000000	3.85			
(c) Post Contract Contingency	1600000	6.16	21.57	5600000	21

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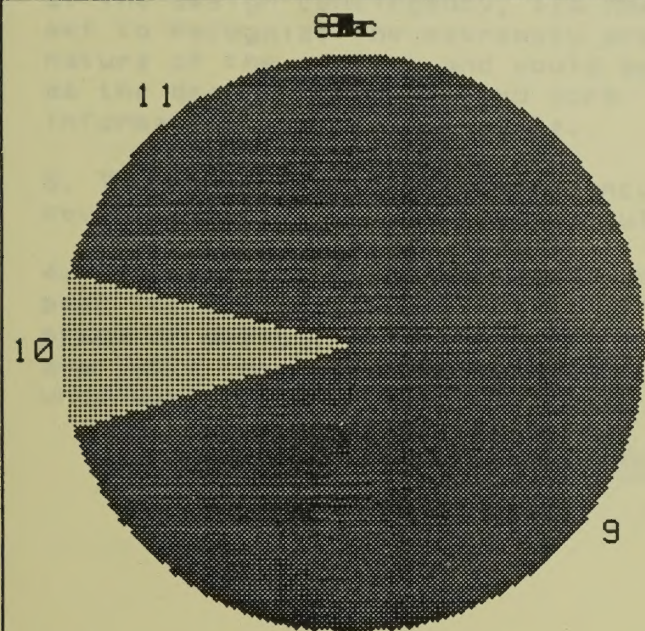
HAMILTON WATERFRONT STUDY
Scheme No. 2
Coombes/Kirkland/Berridge
24 July 85 Gross Floor Area

85971
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416 978 9040
259,585 m2
SID 05246

PERCENTAGE DISTRIBUTION OF CONSTRUCTION COSTS

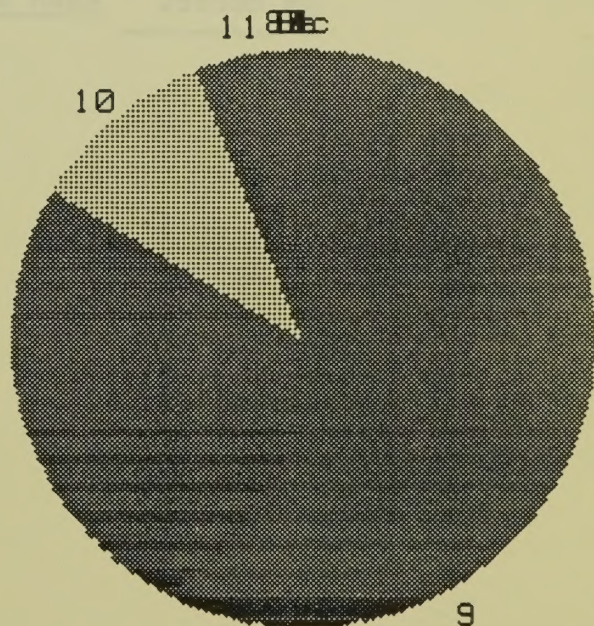
As of Above Date

As of Bid Date



1	Substructure	0	0%
2	Structure	0	0%
3	Exterior Cladding	0	0%
4	Partitions & Drs	0	0%
5	Vertical Movement	0	0%
6	Interior Finishes	0	0%
7	Fittings & Equip	0	0%
8a	Electrical	0	0%
8bc	Mechanical	0	0%
9	Site Development	22715000	84%
10	Overhead & Profit	2845000	10%
11	Contingencies	1600000	5%
Total		27160000	100%

1	Substructure	0	0%
2	Structure	0	0%
3	Exterior Cladding	0	0%
4	Partitions & Drs	0	0%
5	Vertical Movement	0	0%
6	Interior Finishes	0	0%
7	Fittings & Equip	0	0%
8a	Electrical	0	0%
8bc	Mechanical	0	0%
9	Site Development	19160000	71%
10	Overhead & Profit	2400000	9%
11	Contingencies	5600000	21%
Total		27160000	100%



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HAMILTON WATERFRONT STUDY
Scheme No. 2
Coombes/Kirkland/Berridge
23 July 85 Document Tape 66 File 97102b

85971

N76 Rev 02.b

416 978 9040

97102b

Description

Trade

Quantity

Rate

Amount

0 GROSS FLOOR AREA

Site Area

243228 m2

Lagoon

16357 m2

Note:

1. This is a draft for your inspection, to be amended as may be necessary.

2. The design contingency, 11a has been set to recognize the extremely preliminary nature of the project and would be reduced as the design develops and more information becomes available.

0 m2

3. The cost escalation contingency, 11b covers the period July 1985 to July 1986.

4. The post contract contingency has also been set recognizing the very preliminary stage of design, little information is available regarding sub soil and underwater conditions.

0 m2

TOTAL GROSS FLOOR AREA

259585 m2

MAJOR LANDSCAPE FEATURES

6 Sculpture of Gardens

1. Sculpture of Gardens

2. Sculpture of Gardens

7 International Gardens

1. International Gardens

2. International Gardens

3. International Gardens

4. International Gardens

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Richmond Hill Ontario
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HAMILTON WATERFRONT STUDY
Scheme No. 2
Coombes/Kirkland/Berridge
23 July 85 Document Tape 66 File 97102b

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416 978 9040

97102b

Description	Trade	Quantity	Rate	Amount
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9 SITE DEVELOPMENT

(A) GENERAL

LAND RECONFIGURATION

Estimate provided by Stevenson Hluchan for
the following earthwork and all edge
conditions

1 Lax Property - form into island

- shore protection		900 m1	830.00	747000
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2 Macassa Cove - enlarge landfill side

- dredge eastern end		109000 m3	7.00	763000
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3 Lookout - concrete pod

		2040 m2	200.00	408000
--	--	---------	--------	--------

4 New Islands - landfill

		39000 m3	4.50	175500
--	--	----------	------	--------

13 Waterfront Promenade - reconfigure

- floating dock (slips)		90 no	4000.00	360000
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slips - piled pier including

		16 no	6000.00	96000
--	--	-------	---------	-------

MAJOR LANDSCAPE FEATURES

6 Boulevard of Gardens

limestone fines and stone edging		12211 m2	10.00	122110
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fountains		3 no	25000.00	75000
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7 International Gardens

plant material by others

haul in topsoil and grade		3500 m2	20.00	70000
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edge treatment		400 m1	50.00	20000
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lighting and water supply		3500 m2	3.00	10500
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HAMILTON WATERFRONT STUDY
Scheme No. 2
Coombes/Kirkland/Berridge
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Description	Trade	Quantity	Rate	Amount
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4 The Islands - form islands (see estimate
by Stevenson/Hluchan)

5 The Lagoon

lagoon boardwalk		4390 m2	50.00	219500
floating stage - deleted from drawings				
zamboni allowance		1s		30000
sprinkler equipment allowance		1s		20000
fountains		3 no	25000.00	75000
lighting		1s		10000
shallow to permit freezing				

8 The Lawn

mixed lawn and plantings		15000 m2	10.00	150000
barbecue stands and picnic benches		40 no	500.00	20000

3 Lookout

piled structure (see estimate by
Stevenson/Hluchan)

Imax/Omnimax - building (foundations already in place)		1s		1000000
- equipment including				
projector		1s		1000000
- screen		1s		250000
- film (\$750000)				

9 Groves of Trees

topsoil, sod, plantings		30000 m2	10.00	300000
large trees		400 no	750.00	300000

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HAMILTON WATERFRONT STUDY
Scheme No. 2
Coombes/Kirkland/Berridge
23 July 85 Document Tape 66 File 97102b

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416 978 9040

Description	Trade	Quantity	Rate	Amount
10 Pathways				
limestone fines and edge treatment		5441 m2	10.00	54410
service road - asphalt		2100 m2	15.00	31500
11 Fishing Area				
allowance - see also 3		1s		5000
12 Waterfront Promenade				
boardwalk		2400 m2	50.00	120000
reconfigure marina - see Stevenson Hluchan				
trees		200 no	400.00	80000
13 Pier 4 Park				
lookouts		2 no	20000.00	40000
double rows of trees (3644m2)		350 m2	200.00	70000
walkway		400 m2	20.00	8000
topsoil and sod		20064 m2	2.50	50160
14 Guise St./Leander Drive				
make good		1200 m1	20.00	24000
trees		240 no	750.00	180000
grassed verge		1s		10000
fencing		1s		40000
27 Bandshell Stage				
bandshell - floor and shell (equipment not included)		1s		100000
grassed seating premium on grading and sod		5000 m2	5.00	25000

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416 978 9040

Description	Trade	Quantity	Rate	Amount
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28 Waterfront Square

paving		3769 m2	30.00	113070
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PUBLIC BUILDINGS

15 Crystal Pavilion (\$3788500)

1a foundations		1900 m2	100.00	190000
2a lowest floor		1900 m2	40.00	76000
2b structural floor - nominal		400 m2	100.00	40000
2c roof structure		1900 m2	150.00	285000
3a roof glazing		2850 m2	550.00	1567500
3c wall glazing		2250 m2	400.00	900000
3e entrances		2 no	10000.00	20000
4a interior partitions		600 m2	50.00	30000
5a stairs		30 m1	200.00	6000
6a floor finishes		2200 m2	40.00	88000
6c wall finishes		1200 m2	5.00	6000
7a fittings and fixtures		1s		200000
8 mechanical and electrical		1900 m2	200.00	380000

16 Support Greenhouses

greenhouses		422 m2	500.00	211000
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18 School-by-the-Water

renovate existing		693 m2	500.00	346500
new construction		400 m2	800.00	320000
public pier - see Stevenson Hluchan				

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HAMILTON WATERFRONT STUDY
Scheme No. 2
Coombes/Kirkland/Berridge
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N76 Rev 02.b

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Description	Trade	Quantity	Rate	Amount
boat launch south of bridge		1s		15000

WATERFRONT ACTIVITIES

19 The Wharf

bin wall		560 m1	2700.00	1512000
docking facilities		1s		10000

11 Tour Boats

ticket booth		1s		5000
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20 Aerial Gondola

loading areas		2 no	10000.00	20000
lift as previous		1s		1000000

21 Rowing and Canoe Course

canoe rental area		1s		25000
obstacle course		1s		30000

26 Hamilton Replica - assumes volunteer labour

construction of replica		1s		750000
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EVENT PROGRAMMING

- no associated costs are assumed

COMMERCIAL DEVELOPMENT

Bridge

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Scheme No. 2
Coombes/Kirkland/Berridge
23 July 85 Document Tape 66 File 97102b

85971

N76 Rev 02.b

416 978 9040

97102b

Description	Trade	Quantity	Rate	Amount
restaurants		630 m2	1000.00	630000
concessions		4 no	20000.00	80000
bridge - railings and finishes		1849 m2	400.00	739600

19 The Wharf

allowance for restaurants or concessions		1s		150000
boardwalk		0 m2	50.00	0

ROAD SYSTEM AND PARKING

23 Major Parking Lot (700 cars)

bituminous paving		25000 m2	15.00	375000
landscaping and trees		12000 m2	30.00	360000
gates		4 no	2000.00	8000
paint stalls		700 no	7.00	4900

24 Minor Parking Lot (200 cars)

bituminous paving		10000 m2	15.00	150000
gates		4 no	2000.00	8000
paint stalls		200 no	7.00	1400

25 Road Access

Strachan Ave.- upgrade		1s		20000
- connect		1s		20000
Macassa/Marina - pave		4906 m2	30.00	147180
- curbs and walks		2000 m2	30.00	60000

TOTAL 9(A) GENERAL 17959830

(B) SERVICES

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HAMILTON WATERFRONT STUDY
Scheme No. 2
Coombes/Kirkland/Berridge
23 July 85 Document Tape 66 File 97102b

85971

N76 Rev 02.b

416 978 9040

Description	Trade	Quantity	Rate	Amount
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Allowances for:

Water - fresh		1s		75000
- lake		1s		25000
Drainage - storm		1s		340000
- sanitary		1s		100000
- lift station		1s		35000
Power		1s		100000
Surface treatment - water		1s		25000
- lighting and outlets		1s		300000

TOTAL 9(B) SERVICES 1000000

(C) ALTERATIONS

Allowance for work adjacent to site		1s		100000
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TOTAL 9(C) ALTERATIONS 100000

(D) DEMOLITION

Allowance for demolition of existing structures		1s		100000
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TOTAL 9(D) DEMOLITION 100000

TOTAL 9 SITE DEVELOPMENT 19159830

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HAMILTON WATERFRONT STUDY
Scheme No. 2
Coombes/Kirkland/Berridge
23 July 85 Document Tape 66 File 97102b

85971

N76 Rev 02.b

416 978 9040

Description

Trade Quantity

Rate Amount

10 OVERHEAD & PROFIT

(A) SITE OVERHEAD

General contractor's site expenses
including access, site accommodation &
protection, temporary services, cleanup,
supervision, insurances, bonds,
equipment, winter conditions, etc.

1s

1600000

TOTAL 10(A) SITE OVERHEAD 1600000

(B) HEAD OFFICE OVERHEAD & PROFIT

General contractor's head office overhead
and profit

1s

800000

TOTAL 10(B) HEAD OFFICE OVERHEAD & PROFIT 800000

TOTAL 10 OVERHEAD & PROFIT 2400000

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HAMILTON WATERFRONT STUDY
Scheme No. 2
Coombes/Kirkland/Berridge
23 July 85 Document Tape 66 File 97102b

85971

N76 Rev 02.b

416 978 9040

Description

Trade Quantity

Rate Amount

11 CONTINGENCIES

(A) DESIGN CONTINGENCY

Design contingency for changes to the
project during the design phase

1s

3000000

TOTAL 11(A) DESIGN CONTINGENCY 3000000

(B) ESCALATION CONTINGENCY

Escalation contingency for cost increases
due to inflation for the 12 month period
to July 1986.

1s

1000000

TOTAL 11(B) ESCALATION CONTINGENCY 1000000

(C) POST CONTRACT CONTINGENCY

Post contract contingency for changes
during the construction period to allow
for extra costs caused by site conditions,
changes made by consultants, users,
regulatory bodies, etc.

1s

1600000

TOTAL 11(C) POST CONTRACT CONTINGENCY 1600000

TOTAL 11 CONTINGENCIES 5600000

Alternative
Scheme 3

Harbourplace Hamilton

A.J. VERMEULEN
33 Centre Street East
Richmond Hill Ontario
416 884 1868 L4C 1A3

HAMILTON WATERFRONT STUDY
Scheme No. 3
Coombes/Kirkland/Berridge
24 July 85 Gross Floor Area

85971
N76 Rev 03.b
416 978 9040
259,585 m2
SID 05247

Element	Amount	Cost per m2		Total	%
1 Substructure	0				
(a) Normal Foundations	0	0.00			
(b) Basement Excavation & Backfill	0	0.00			
(c) Special Foundations	0	0.00	0.00	0	0
2 Structure	0				
(a) Lowest Floor Construction	0	0.00			
(b) Upper Floor Construction	0	0.00			
(c) Roof Construction	0	0.00	0.00	0	0
3 Exterior Cladding	0				
(a) Roof Finish	0	0.00			
(b) Walls Below Ground Floor	0	0.00			
(c) Walls Above Ground Floor	0	0.00			
(d) Windows	0	0.00			
(e) Exterior Doors & Screens	0	0.00			
(f) Projections	0	0.00	0.00	0	0
4 Interior Partitions & Doors	0				
(a) Permanent Partitions & Doors	0	0.00			
(b) Movable Partitions & Doors	0	0.00			
(c) Glazed Partitions & Doors	0	0.00	0.00	0	0
5 Vertical Movement	0				
(a) Stairs	0	0.00			
(b) Elevators & Escalators	0	0.00	0.00	0	0
6 Interior Finishes	0				
(a) Floor Finishes	0	0.00			
(b) Ceiling Finishes	0	0.00			
(c) Wall Finishes	0	0.00	0.00	0	0
7 Fittings & Equipment	0				
(a) Fittings & Fixtures	0	0.00			
(b) Equipment	0	0.00	0.00	0	0
8 Services	0				
(a) Electrical	0	0.00			
(b) Plumbing & Fire Protection	0	0.00			
(c) Heating Ventilation Air Conditioning	0	0.00	0.00	0	0
9 Site Development	21581000				
(a) General	20381000	78.51			
(b) Services	1000000	3.85			
(c) Alterations	100000	0.39			
(d) Demolition	100000	0.39	83.14	21581000	70
10 Overhead & Profit	2850000				
(a) Site Overhead	1900000	7.32			
(b) Head Office Overhead & Profit	950000	3.66	10.98	2850000	9
11 Contingencies	6600000				
(a) Design Contingency	3500000	13.48			
(b) Escalation Contingency	1200000	4.62			
(c) Post Contract Contingency	1900000	7.32	25.43	6600000	21

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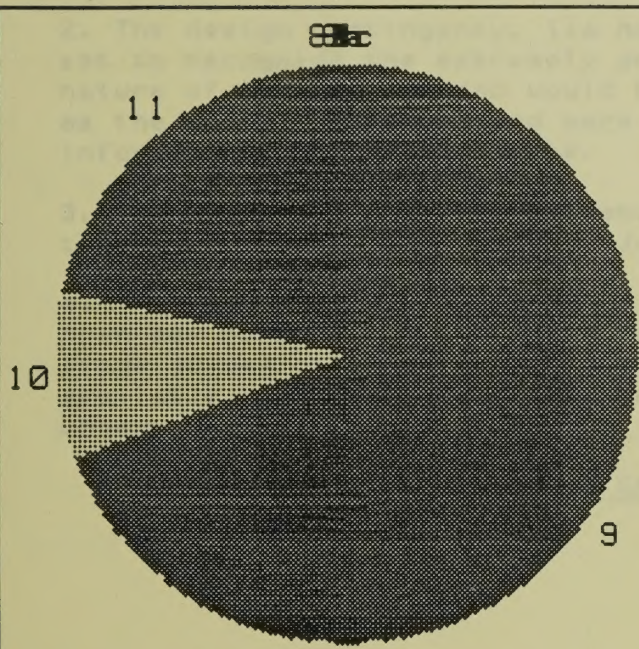
HAMILTON WATERFRONT STUDY
Scheme No. 3
Coombes/Kirkland/Berridge
24 July 85 Gross Floor Area

85971
N76 Rev 03.b
416 978 9040
259,585 m2
SID 05247

PERCENTAGE DISTRIBUTION OF CONSTRUCTION COSTS

As of Above Date

As of Bid Date

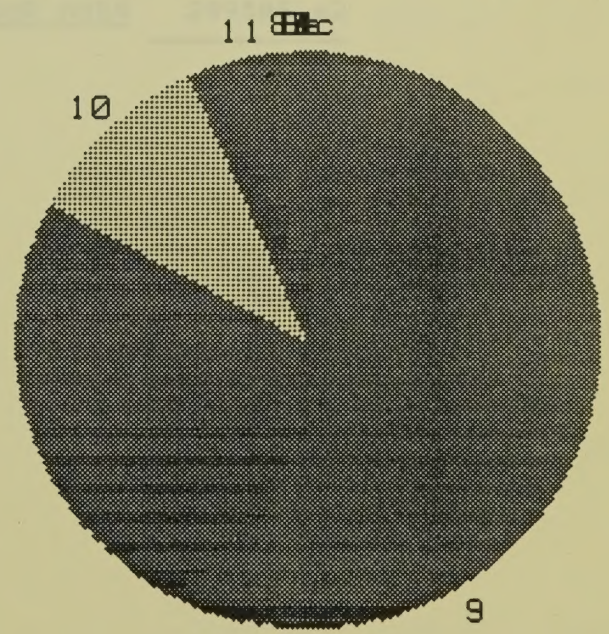


1 Substructure	0	0%
2 Structure	0	0%
3 Exterior Cladding	0	0%
4 Partitions & Drs	0	0%
5 Vertical Movement	0	0%
6 Interior Finishes	0	0%
7 Fittings & Equip	0	0%
8a Electrical	0	0%
8bcMechanical	0	0%
9 Site Development	25733000	83%
10 Overhead & Profit	3398000	11%
11 Contingencies	1900000	6%

Total 31031000 100%

1 Substructure	0	0%
2 Structure	0	0%
3 Exterior Cladding	0	0%
4 Partitions & Drs	0	0%
5 Vertical Movement	0	0%
6 Interior Finishes	0	0%
7 Fittings & Equip	0	0%
8a Electrical	0	0%
8bcMechanical	0	0%
9 Site Development	21581000	70%
10 Overhead & Profit	2850000	9%
11 Contingencies	6800000	21%

Total 31031000 100%



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Scheme No. 3
Coombes/Kirkland/Berridge
23 July 85 Document Tape 66 File 97103b
85971
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97103b

Description	Trade	Quantity	Rate	Amount
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0 GROSS FLOOR AREA

Site Area		243228	m2	
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Lagoon		16357	m2	
--------	--	-------	----	--

Note:

1. This is a draft for your inspection, to be amended as may be necessary.

2. The design contingency, 11a has been set to recognize the extremely preliminary nature of the project and would be reduced as the design develops and more information becomes available.

0 m2

3. The cost escalation contingency, 11b covers the period July 1985 to July 1986.

4. The post contract contingency has also been set recognizing the very preliminary stage of design, little information is available regarding sub soil and underwater conditions.

0 m2

TOTAL GROSS FLOOR AREA	259585	m2
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MAJOR LANDSCAPE FEATURES

1. Boulevard of Gardens

2. Waterfront Plaza and along edge

3. Fountains

4. International Gardens

5. Haul in topsoil and grade

6. Edge treatment

7. Lighting and water supply

8. The Islands

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Scheme No. 3
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97103b

Description	Trade	Quantity	Rate	Amount
-------------	-------	----------	------	--------

9 SITE DEVELOPMENT

(A) GENERAL

LAND RECONFIGURATION

Estimate provided by Stevenson Hluchan for
the following earthwork and all edge
conditions

1 Lax Property - form into island

- shore protection		900 m1	830.00	747000
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2 Macassa Cove - enlarge landfill side

- dredge eastern end		109000 m3	7.00	763000
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3 Lookout - concrete pod

		2040 m2	200.00	408000
--	--	---------	--------	--------

4 New Islands - landfill

		39000 m3	4.50	175500
--	--	----------	------	--------

13 Waterfront Promenade - reconfigure

Floating dock (slips)		90 no	4000.00	360000
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Piled pier including slips		16 no	6000.00	96000
----------------------------	--	-------	---------	-------

MAJOR LANDSCAPE FEATURES

6 Boulevard of Gardens

limestone fines and stone edging		12211 m2	10.00	122110
----------------------------------	--	----------	-------	--------

fountains		3 no	25000.00	75000
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7 International Gardens

haul in topsoil and grade		3500 m2	20.00	70000
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edge treatment		400 m1	50.00	20000
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lighting and water supply		3500 m2	3.00	10500
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4 The Islands

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Description	Trade	Quantity	Rate	Amount
grottos, ruins, temples, mazes, etc		1s		100000
lagoon boardwalk		4390 m2	50.00	219500
topsoil, sod, plantings		30000 m2	10.00	300000
form islands (see estimate by Hluchan)				

5 The Lagoon

shallow to permit frezing (see
estimate by Hluchan)

floating stage - deleted from drawings

Zamboni - allowance	1s			30000
sprinkler equipment allowance	1s			20000
fountains	3 no	25000.00		75000
lighting	1s			10000

8 The Lawn

mixed lawn and plantings	15000 m2	5.00		75000
barbecue stands and picnic benches	40 no	500.00		20000

3 Lookout

piled structure (see estimate by
Hluchan)

Imax/Omnimax - building (foundations assumed in place)	1s			1000000
- equipment including projector	1s			1000000
- screen	1s			250000
- film (\$750000)				

9 Groves of Trees

topsoil, sod, plantings	30000 m2	10.00		300000
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Description	Trade	Quantity	Rate	Amount
large trees		400 no	750.00	300000
10 Pathways				
limestone fines and edge treatment		5441 m2	10.00	54410
service road - asphalt		2100 m2	15.00	31500
11 Fishing Area				
allowance		1s		5000
13 Waterfront Promenade				
boardwalk		2400 m2	50.00	120000
reconfigure marina - see Stevenson Hluchan				
trees		200 no	400.00	80000
13 Pier 4 Park				
lookouts		2 no	20000.00	40000
double rows of trees (3644m2)		350 no	250.00	87500
walkway		400 m2	20.00	8000
topsoil and sod		20064 m2	10.00	200640
14 Guise St./Leander Drive				
make good		1200 m1	20.00	24000
trees		240 no	750.00	180000
grassed verge		1s		10000
fencing		1s		40000
30 Amphitheatre				
outdoor theatre comparable to Earl				

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Description	Trade	Quantity	Rate	Amount
Bales including equipment and seating		1s		1500000

28 Waterfront Square

paving		3769 m2	30.00	113070
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PUBLIC BUILDINGS

15 Crystal Pavilion (\$3788500)

1a foundations		1900 m2	100.00	190000
2a lowest floor		1900 m2	40.00	76000
2b structural floor - nominal		400 m2	100.00	40000
2c roof structure		1900 m2	150.00	285000
3a roof glazing		2850 m2	550.00	1567500
3c wall glazing		2250 m2	400.00	900000
3e entrances		2 no	10000.00	20000
4a interior partitions		600 m2	50.00	30000
5a stairs		30 m1	200.00	6000
6a floor finishes		2200 m2	40.00	88000
6c wall finishes		1200 m2	5.00	6000
7a fittings and fixtures		1s		200000
8 mechanical and electrical		1900 m2	200.00	380000

16 Support Greenhouses

greenhouses		422 m2	500.00	211000
-------------	--	--------	--------	--------

18 School-by-the-Water

renovate existing		693 m2	500.00	346500
new construction		400 m2	800.00	320000

public pier - see Stevenson Hluchan

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Description	Trade	Quantity	Rate	Amount
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boat launch south of bridge		1s		15000
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WATERFRONT ACTIVITIES

19 The Wharf

bin wall		470 ml	2700.00	1269000
----------	--	--------	---------	---------

docking facilities		1s		10000
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11 Tour Boats

ticket booth		1s		5000
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20 Aerial Gondola

loading areas		2 no	10000.00	20000
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lift as previous		1s		1000000
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21 Rowing and Canoe Course

canoe rental area		1s		25000
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obstacle course		1s		30000
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26 Hamilton Replica - assumes volunteer labour

construction of replica		1s		750000
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EVENT PROGRAMMING

- no associated costs are assumed

COMMERCIAL DEVELOPMENT

Bridge

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Description	Trade	Quantity	Rate	Amount
restaurants		630 m2	1000.00	630000
concessions		4 no	20000.00	80000
bridge - includes railings and features		1849 m2	400.00	739600
19 The Wharf				
allowance for restaurants or concessions		1s		150000
boardwalk		0 m2	50.00	0
31 Boulevard of Restaurants				
buildings only - tenant imprints by others		1000 m2	800.00	800000
32 Hotel				
to be undertaken by others		1164 m2	0.00	0
33 Mixed Use				
a) Pier 8 development - to be undertaken by others		26067 m2	0.00	0
b) east of Pier 4 - ditto		5869 m2	0.00	0
36 Commercial Intensification				
to be undertaken by others		21395 m2	0.00	0
34 Residential Development				
waterfront housing - to be undertaken by others		12752 m2	0.00	0

ROAD SYSTEM AND PARKING

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Description	Trade	Quantity	Rate	Amount
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23 Major Parking Lot (900 cars)

bituminous paving		30000 m2	15.00	450000
landscaping and trees		7000 m2	40.00	280000
gates		4 no	2000.00	8000
paint stalls		900 no	7.00	6300

24 Minor Parking Lot (200 cars)

bituminous paving		10000 m2	15.00	150000
gates		4 no	2000.00	8000
stalls		200 no	7.00	1400

25 Road Access

Strachan Ave.- upgrade		1s		20000
- connect		1s		20000
Macassa/Marina - pave		4906 m2	30.00	147180
- curbs and walks		2000 m2	30.00	60000

35 Hamilton Street Railway

Streetcar/Shuttle bus line - by others

TOTAL 9(A) GENERAL 20381210

(B) SERVICES

Water - fresh		1s		75000
- lake		1s		25000
Drainage - storm		1s		340000
- sanitary		1s		100000
- lift station		1s		35000
Power		1s		100000

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Description	Trade	Quantity	Rate	Amount
-------------	-------	----------	------	--------

Surface treatment - water		1s		25000
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- lighting and outlets		1s		300000
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<u>TOTAL 9(B) SERVICES</u>				<u>1000000</u>
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(C) ALTERATIONS

Allowances for work adjacent to site		1s		100000
--------------------------------------	--	----	--	--------

<u>TOTAL 9(C) ALTERATIONS</u>				<u>100000</u>
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(D) DEMOLITION

Allowance for demolition of existing structures		1s		100000
---	--	----	--	--------

<u>TOTAL 9(D) DEMOLITION</u>				<u>100000</u>
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<u>TOTAL 9 SITE DEVELOPMENT</u>				<u>21581210</u>
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Scheme No. 3
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Description

Trade Quantity

Rate Amount

10 OVERHEAD & PROFIT

(A) SITE OVERHEAD

General contractor's site expenses including access, site accommodation and protection, temporary services, cleanup, supervision, testing and inspection, insurances, bonds, equipment, winter conditions, etc.

1s

1900000

TOTAL 10(A) SITE OVERHEAD 1900000

(B) HEAD OFFICE OVERHEAD & PROFIT

General contractor's head office overhead and profit

1s

950000

TOTAL 10(B) HEAD OFFICE OVERHEAD & PROFIT 950000

TOTAL 10 OVERHEAD & PROFIT 2850000

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Description

Trade Quantity

Rate Amount

11 CONTINGENCIES

(A) DESIGN CONTINGENCY

Design contingency for changes to the
project during the design phase

1s

3500000

TOTAL 11(A) DESIGN CONTINGENCY 3500000

(B) ESCALATION CONTINGENCY

Escalation contingency for cost increases
due to inflation for the 12 month period
to July 1986.

1s

1200000

TOTAL 11(B) ESCALATION CONTINGENCY 1200000

(C) POST CONTRACT CONTINGENCY

Post contract contingency for changes
during the construction period to allow
for extra costs caused by site conditions,
changes made by consultants, users,
regulatory bodies, etc.

1s

1900000

TOTAL 11(C) POST CONTRACT CONTINGENCY 1900000

TOTAL 11 CONTINGENCIES 6600000

Scheme 2

HAMILTON WATERFRONT STUDY
Hamilton Island

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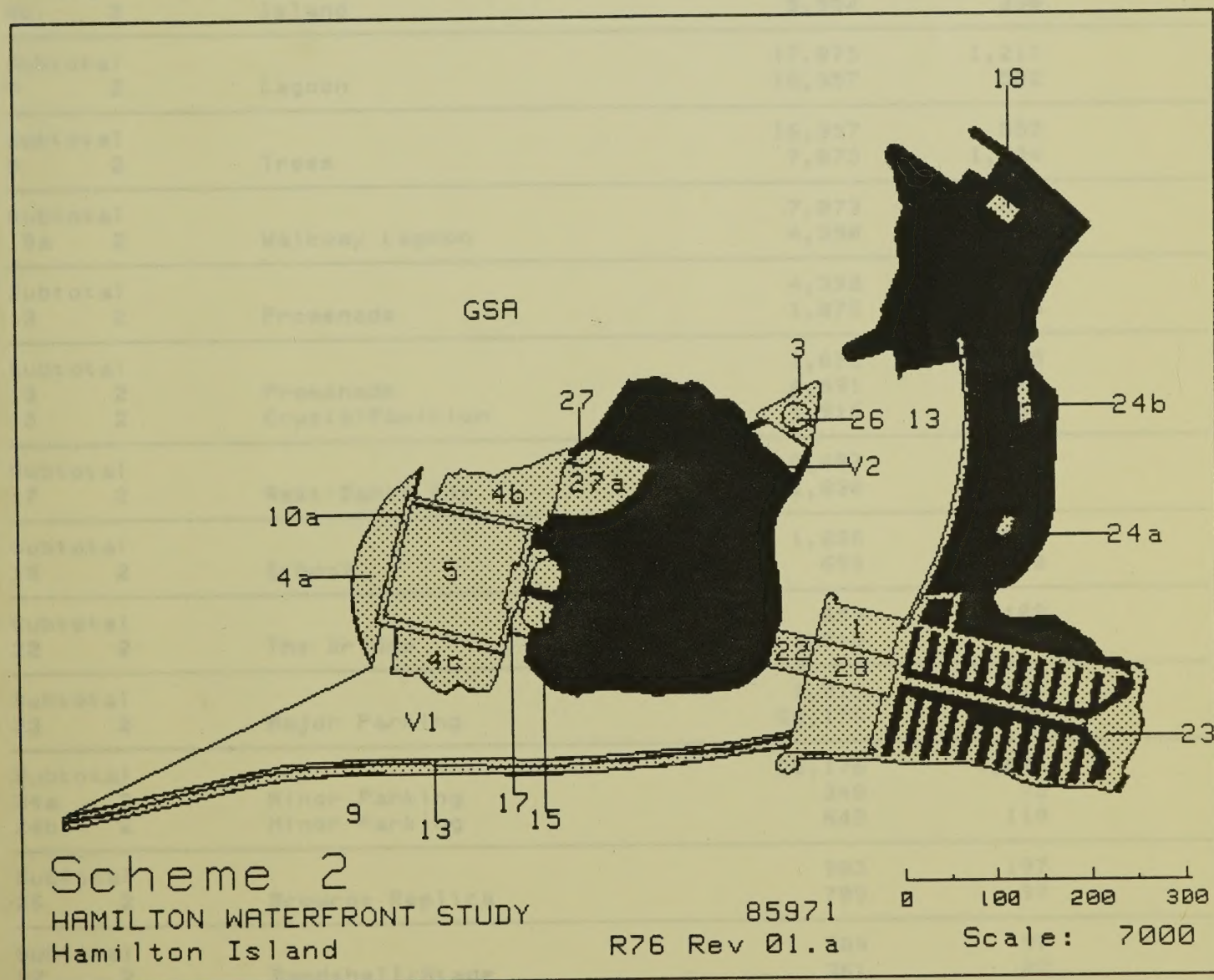
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Metric

HAMILTON WATERFRONT STUDY
Hamilton Island
Coombes/Kirkland/Berridge
15 July 85

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Tape Number 02

X-length = 2000.0 X-scale = 2000.000 Y-length = 2000.0 Y-scale = 2000.000



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HAMILTON WATERFRONT STUDY
 Hamilton Island
 Coombes/Kirkland/Berridge
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 Tape Number 02

** Output **:Plan-Scheme 2

Digit Label	Arch Label	Description	Area	Perim
1	2	Lax Property	10,737	716
Subtotal			10,737	716
3	2	Imax	1,928	337
Subtotal			1,928	337
4a	2	Island	5,602	483
4b	2	Island	6,721	396
4c	2	Island	5,552	338
Subtotal			17,875	1,217
5	2	Lagoon	16,357	532
Subtotal			16,357	532
9	2	Trees	7,073	1,604
Subtotal			7,073	1,604
10a	2	Walkway Lagoon	4,390	1,124
Subtotal			4,390	1,124
13	2	Promenade	1,875	675
Subtotal			1,875	675
13	2	Promenade	4,691	1,601
15	2	Crystal Pavilion	1,916	257
Subtotal			6,607	1,858
17	2	Rest/Dance Pav.	1,038	267
Subtotal			1,038	267
18	2	School	699	108
Subtotal			699	108
22	2	The Bridge	1,815	171
Subtotal			1,815	171
23	2	Major Parking	26,176	4,624
Subtotal			26,176	4,624
24a	2	Minor Parking	340	78
24b	2	Minor Parking	643	119
Subtotal			983	197
26	2	Scourge Replica	709	97
Subtotal			709	97
27	2	Bandshell/Stage	361	82
27a	2	Stage Seating	4,936	297
Subtotal			5,297	379
28	2	Waterfront Squ.	3,769	268
Subtotal			3,769	268

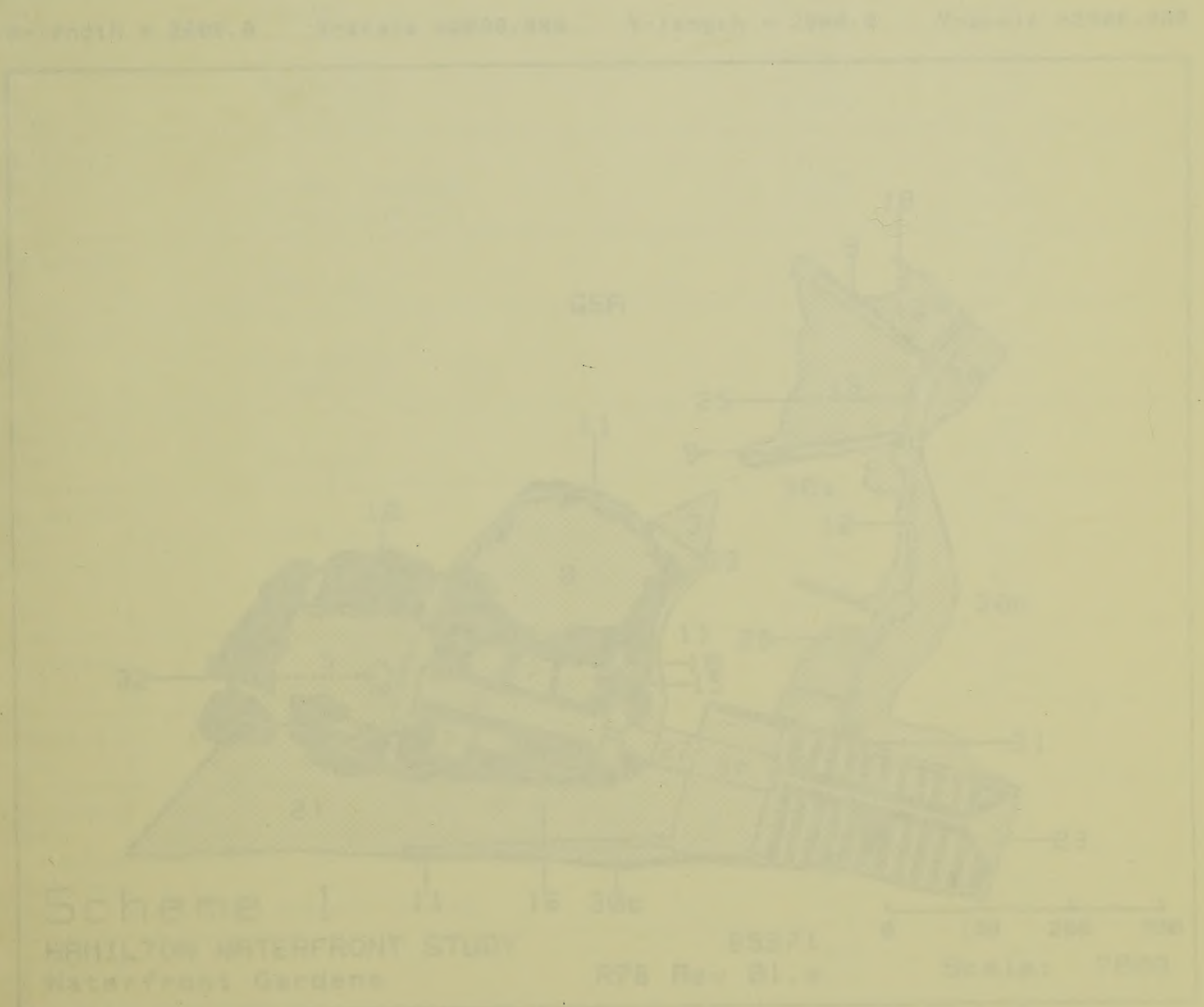
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HAMILTON WATERFRONT STUDY
Hamilton Island
Coombes/Kirkland/Berridge
15 July 85

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Tape Number 02

Subtotal			107,328	14,174
No Work			152,257	
Gross Site Area			259,585	6,901
V1	2	Water	51,959	1,904
V2	2	Water	1,492	173
Void Total			53,451	2,077
Enclosed Area			313,036	4,824



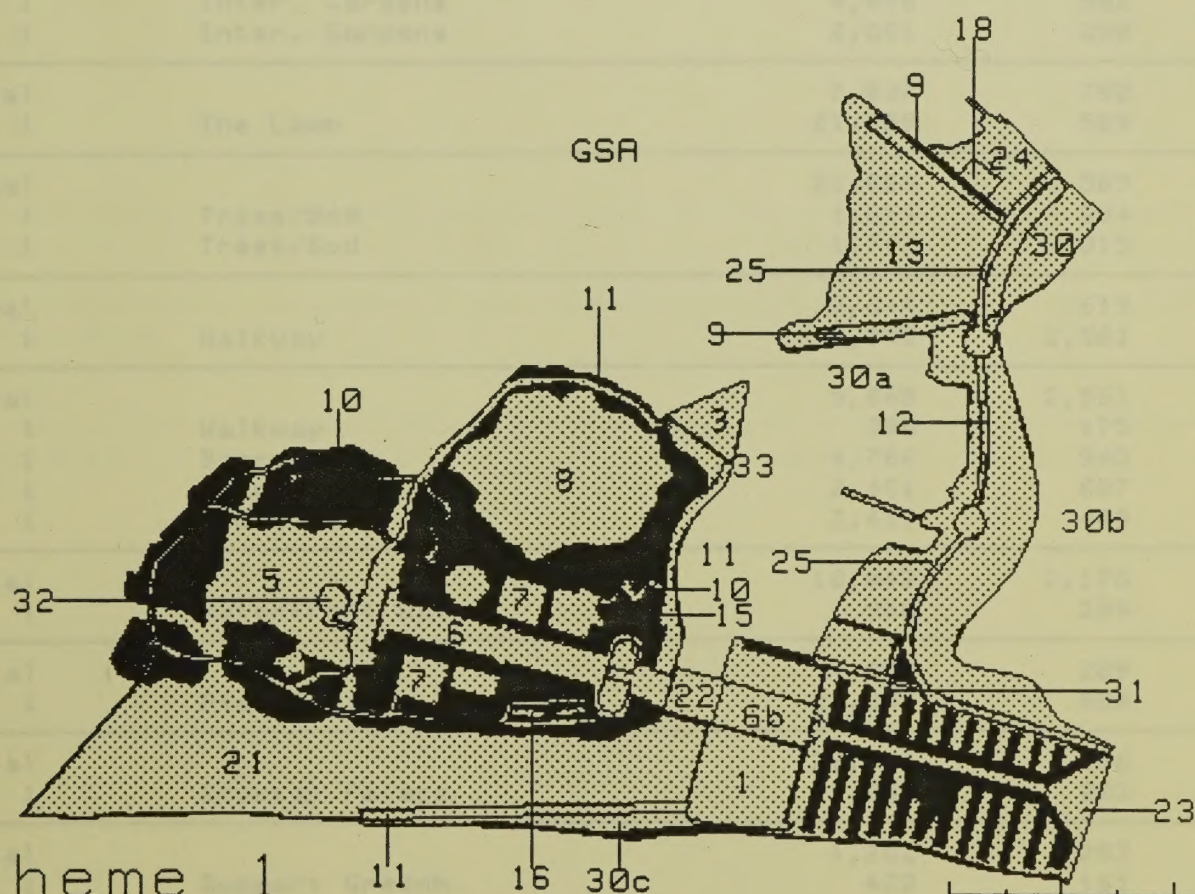
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Metric

HAMILTON WATERFRONT STUDY
Waterfront Gardens
Coombes/Kirkland/Berridge
15 July 85

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416 968 9040
Tape Number 02

X-length = 2000.0 X-scale = 2000.000 Y-length = 2000.0 Y-scale = 2000.000



Scheme 1

HAMILTON WATERFRONT STUDY
Waterfront Gardens

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0 100 200 300
Scale: 7000

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HAMILTON WATERFRONT STUDY
Waterfront Gardens
Coombes/Kirkland/Berridge
15 July 85

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416 968 9040
Tape Number 02

** Output **:Plan-Scheme 1

Digit Label	Arch Label	Description	Area	Perim
1	1	Lax Property	13,297	898
Subtotal			13,297	898
3	1	Look Out	2,629	229
Subtotal			2,629	229
5	1	Lagoon	16,942	1,313
Subtotal			16,942	1,313
6	1	Boulevard	8,577	973
6b	1	Boulevard	3,634	284
Subtotal			12,211	1,257
7	1	Inter. Gardens	4,476	502
7	1	Inter. Gardens	2,561	290
Subtotal			7,037	792
8	1	The Lawn	21,059	589
Subtotal			21,059	589
9	1	Trees/Sod	1,854	304
9	1	Trees/Sod	1,790	315
Subtotal			3,644	619
10	1	Walkway	5,045	2,581
Subtotal			5,045	2,581
10	1	Walkway	396	175
11	1	Boardwalk	4,766	945
11	1	Boardwalk	2,461	607
11	1	Boardwalk	2,419	449
Subtotal			10,042	2,176
12	1	Waterfront Walk	908	289
Subtotal			908	289
13	1	Pier 4 Park	20,054	886
Subtotal			20,054	886
15	1	Crystal Palace	1,202	203
Subtotal			1,202	203
16	1	Support Greenh.	422	161
Subtotal			422	161
18	1	School	693	108
Subtotal			693	108
21	1	Rowing/Canoe	48,729	1,425
Subtotal			48,729	1,425
22	1	The Bridge	1,849	172
Subtotal			1,849	172

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HAMILTON WATERFRONT STUDY
Waterfront Gardens
Coombes/Kirkland/Berridge
15 July 85

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416 968 9040
Tape Number 02

23	1	Major Parking	21,308	4,298
Subtotal			21,308	4,298
24	1	Minor Parking	6,446	744
Subtotal			6,446	744
25	1	Road Access	1,780	415
25	1	Road Access	3,126	763
Subtotal			4,906	1,178
30	1	No Work	4,641	381
30a	1	No Work	9,430	993
30b	1	No Work	16,222	1,022
30c	1	No Work	3,152	646
Subtotal			33,445	3,042
31	1	Sidewalk	741	268
Subtotal			741	268
32	1	Floating Stage	700	144
Subtotal			700	144
33	1	Water	1,116	185
Subtotal			1,116	185
Subtotal			234,425	23,557
Trees/Sod			75,670	
Gross Site Area			310,095	4,548
Void Total			0	0
Enclosed Area			310,095	4,548

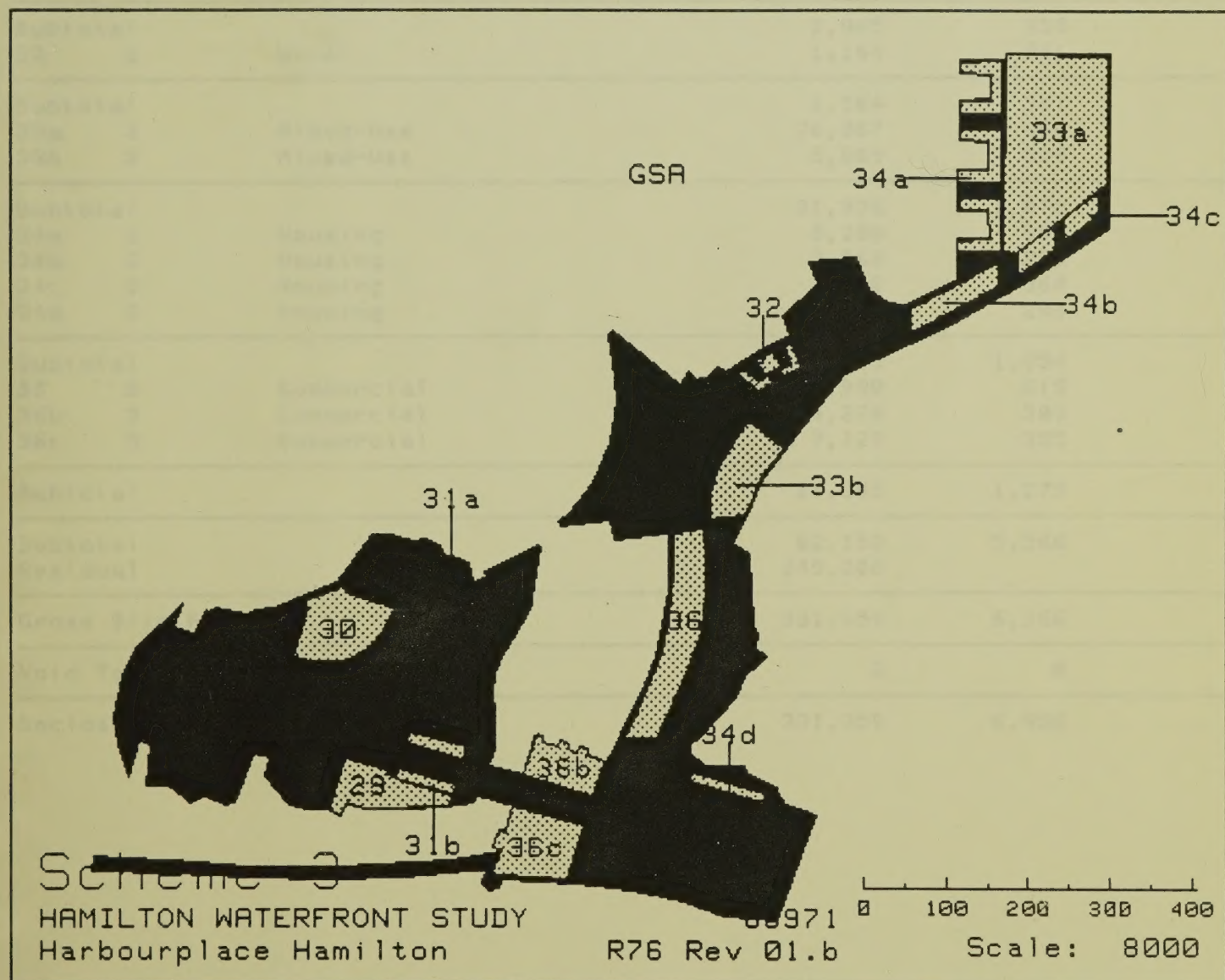
A.J. VERMEULEN
33 Centre Street East
Richmond Hill Ontario
416 884 1868 L4C 1A3

Metric

HAMILTON WATERFRONT STUDY
Harbourplace Hamilton
Coombes/Kirkland/Berridge
15 July 85

85971
R76 Rev 01.b
416 968 9040
Tape Number 02

X-length = 2000.0 X-scale = 2000.000 Y-length = 2000.0 Y-scale = 2000.000



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 Tape Number 02

** Output **:Plan-Scheme 3

Digit Label	Arch Label	Description	Area	Perim
29	3	Playground	5,309	393
Subtotal			5,309	393
30	3	Amphitheatre	7,552	348
Subtotal			7,552	348
31a	3	Restaurants	1,063	170
31b	3	Restaurants	982	168
Subtotal			2,045	338
32	3	Hotel	1,164	341
Subtotal			1,164	341
33a	3	Mixed-Use	26,067	684
33b	3	Mixed-Use	5,869	329
Subtotal			31,936	1,013
34a	3	Housing	6,200	991
34b	3	Housing	2,966	299
34c	3	Housing	2,542	360
34d	3	Housing	1,044	204
Subtotal			12,752	1,854
36	3	Commercial	9,990	615
36b	3	Commercial	4,276	309
36c	3	Commercial	7,129	355
Subtotal			21,395	1,279
Subtotal			82,153	5,566
Residual			249,206	
Gross Site Area			331,359	6,956
Void Total			0	0
Enclosed Area			331,359	6,956

HAMILTON PUBLIC LIBRARY



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